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February 1959

SCHOOL MANAGEMENT

PRACTICAL SOLUTIONS TO SCHOOL MANAGEMENT PROBLEMS

THE FINAL CONANT REPORT

Do you need a kitchen in every building?

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THE NEW LOOK IN SUMMER SCHOOLS

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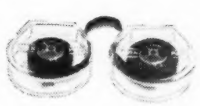

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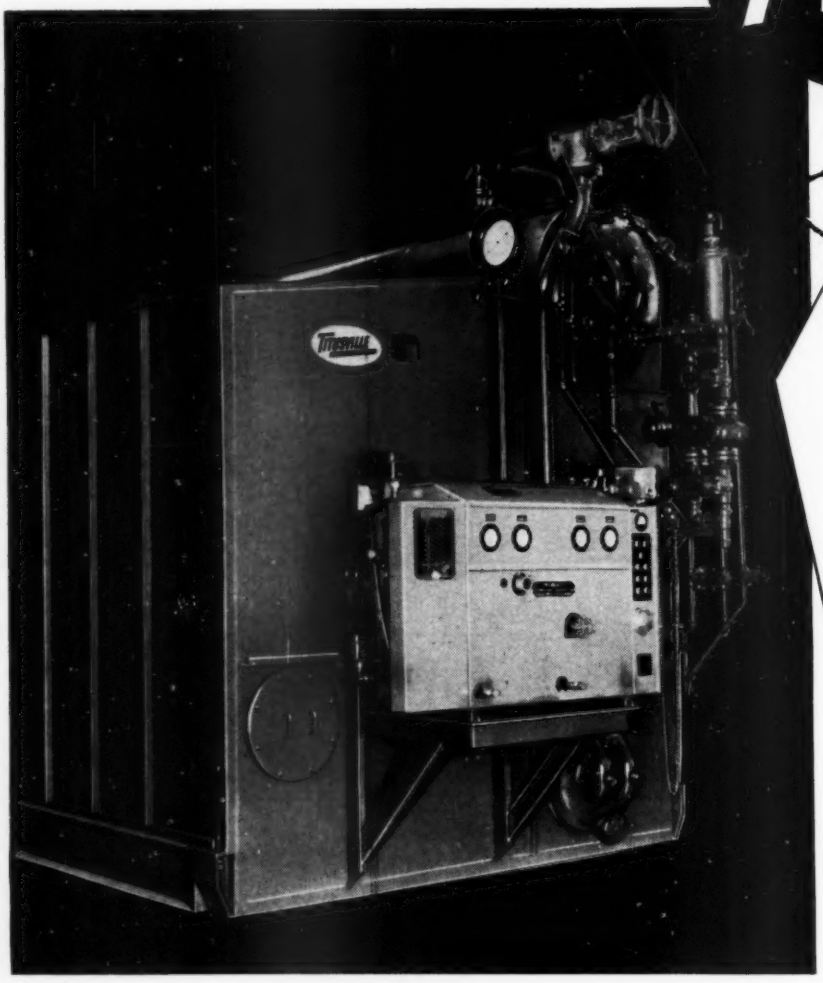

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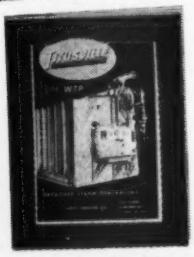

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Vol. 3 No. 2

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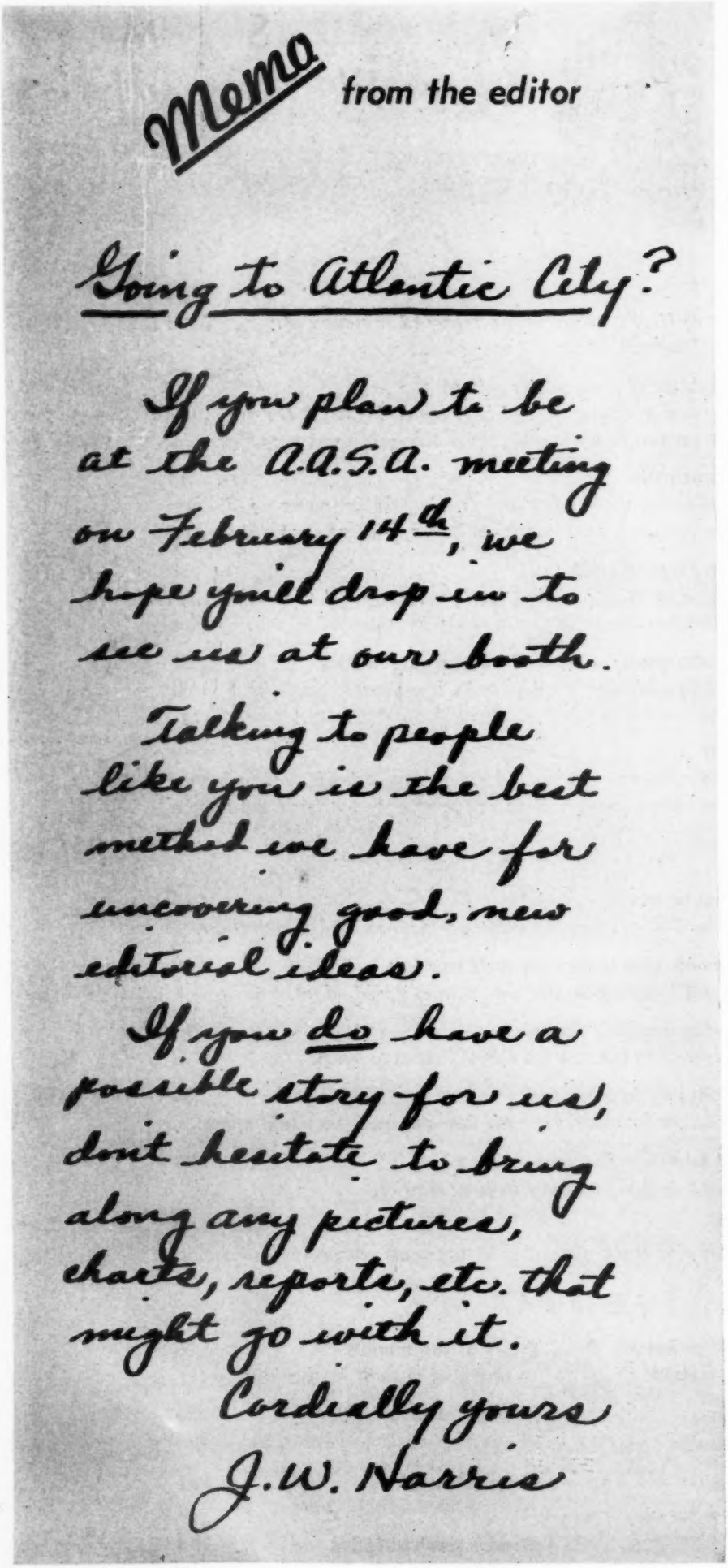
Memo from the editor
Going to Atlantic City?
If you plan to be at the A.A.S.A. meeting on February 14th, we hope you'll drop in to see us at our booth.
Talking to people like you is the best method we have for uncovering good, new editorial ideas.
If you do have a possible story for us, don't hesitate to bring along any pictures, charts, reports, etc. that might go with it.
Cordially yours
J. W. Harris

SCHOOL MANAGEMENT

22 West Putnam Ave., Greenwich, Conn.

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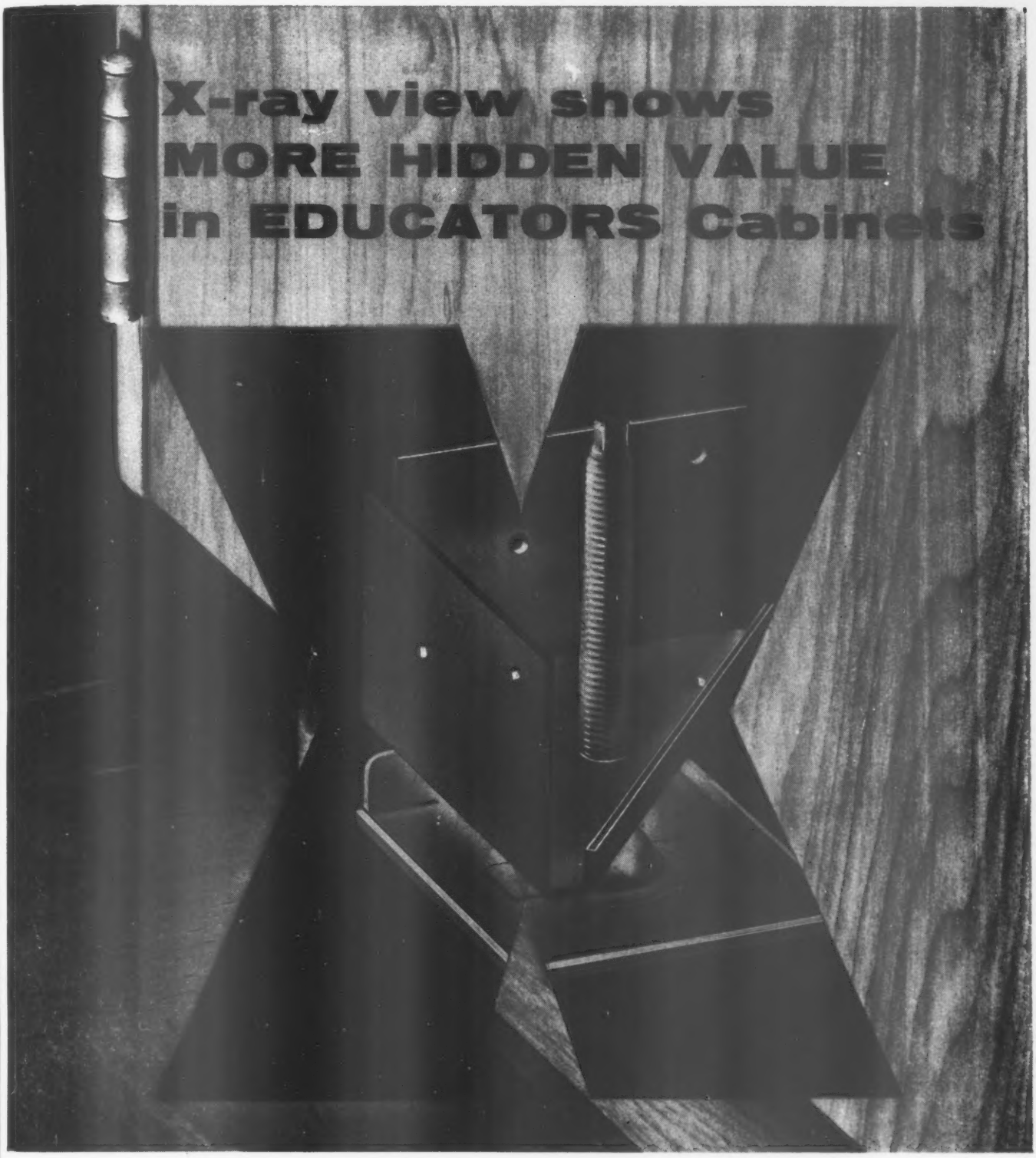

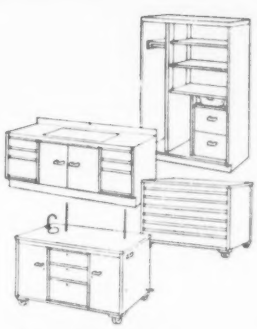

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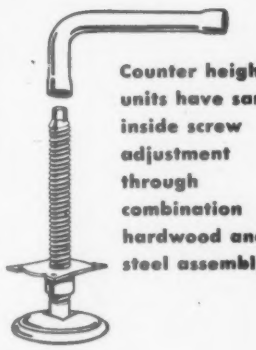

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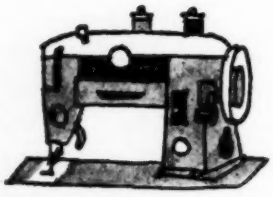


Sewing Machines. Have you and your sewing teachers heard about the great SLANT-O-MATIC*?

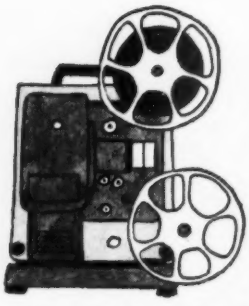
It's the most modern automatic sewing machine ever built, easiest to *teach* on and easiest for your students to *learn* on. And, of course, there are many other sewing machine heads available for classroom use; each smooth-running and dependable as only a SINGER can be.

Repair Service. Every season, SINGER technicians visit schools on request to put all classroom SINGER* Sewing Machines in perfect working order.

They remove lint, oil machines and make simple adjustments *free of charge*. If more complicated repairs are needed, detailed estimates are submitted for approval *before* machines go to the SINGER workshop.

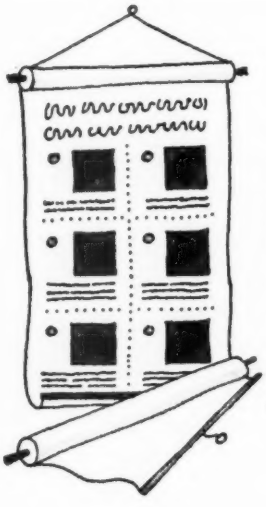
Versatile Desks. SINGER offers a unique, modern desk that converts from study use to cutting table to sewing use, accommodates SINGER classroom machine heads. It not only streamlines the appearance of a room, but makes every inch of space work to its maximum.

Note: Many new schools, or schools designing new sewing classrooms, have been aided by SINGER in their planning. If you could use similar assistance, don't hesitate to call.



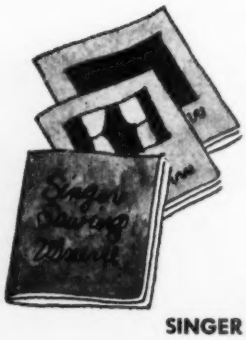
Film Strips. SINGER has five educational film strips, two of them in full color, available for school use.

They promote the fun of sewing—explain the "how" and "why" of machine performance. Excellent visual supplements to the teaching of sewing, they come either with a record or a script which the teacher reads along with each frame.

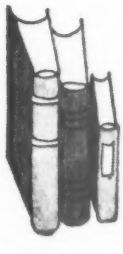


Free Wall Charts. You or your sewing teachers may order 35" x 26" charts that spell out the threading of machine head and bobbin step by step. They are available for each of the different SINGER classroom machine heads.

SINGER also offers you practice stitching charts and a variety of free machine sewing manuals in quantity for your sewing students.



Free Book, Booklets. There is a large selection of SINGER booklets available free for your teachers, covering everything from the history of sewing machines to the latest zig-zag stitching methods—and even a complete textbook on machine sewing, free to teachers.



For further information about the many supplies and services—write to:
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THINGS YOUR PUBLIC OUGHT TO KNOW

Basic information that schoolmen can use as a part of a community education program

Are one-story schools more expensive to build?

■ ■ ■ When a school board presents a plan for a one-story school to the public, it's not uncommon that it meets real resistance from taxpayers who insist that it's cheaper to build on several levels. These well-meaning "experts" seem to have logic on their side, particularly when they point out that smaller quantities of foundation, roofing, land, and utility lines are needed for a multi-story school. Result: many a well-conceived one-level project has been redesigned to satisfy "public opinion."

The taxpayers' error

Now, Robert D. MacKinnon, of Ketchum & Sharp, Architects, has come up with some evidence that one-story schools are apparently *cheaper* to build. His studies show that the space needed to meet the legal requirements for stairs, corridors, and washroom duplication in a multi-level school greatly increases the gross area needed to house a given school program. And these increases, he states, are roughly proportional to the degree that the total area of a school plant has been distributed over more than one floor level.

MacKinnon says that taxpayers should realize that you build schools primarily to get the most teaching space for the lowest cost—not to save on foundation or roofing. A plan which houses a desired program in the least number of total square feet of building, *regardless of the number of stories,* is the goal to be sought.

Says MacKinnon: "You build a school to get space in which to teach. But, no matter how ideally it is designed, there are going to be some areas which are *not* educationally useful—boiler rooms, stair wells, wall thicknesses, corridors, toilet facilities."

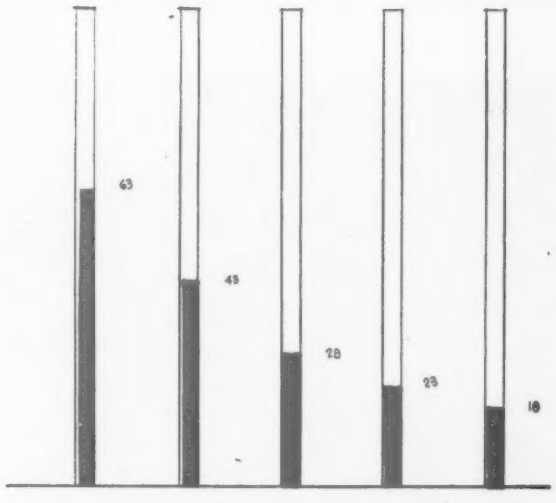
Ketchum & Sharp's "law"

MacKinnon maintains that one-story schools give less non-usable space than do multi-level schools. His proof is based on studies of several different types of school buildings, and is summarized in the table below.

In building his facts, MacKinnon measured the spaces within the buildings he studied, and then separated them into two classes: **1)** program space—the "payload" for which you are building in the first place; and **2)** all other areas—the "deadweight" space required as supplement.

Each 100-square-foot unit of educational space is related to the number of square feet of deadweight space it requires. The total of the two is, of course, the total square footage upon which the builder will base his estimate of cost.

All the schools shown in the chart were designed by Ketchum & Sharp. **End**



Percentage of each school built on *more than one level*

87% 35% 8% 4% 0%

Each white bar indicates 100 sq. ft. of usable educational space. The color bars show the square feet of deadweight space involved in each structure. The figures below the bars show the percentage of the total school area which was built on more than one level. As the space on one level increases, the proportion of educational space increases.

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The thermostat on the wall maintains an ideal thermal environment to keep students alert and encourage better work and study. At night, *Dual* Thermostats keep only occupied rooms comfortable, while low, economy temperatures save fuel in unoccupied rooms.

Pneumatic controls assure flexible heating and ventilating operation to meet each of many different requirements throughout the school. The temperature in this playroom, for example, can be kept below the level needed for comfort in classrooms.

Whiting Lane Elementary School, West Hartford, Conn. Moore & Salsbury, architects, West Hartford; Paul D. Bemis, mechanical engineer, Hartford; The Wadhams & May Co., general contractor, Hartford; John F. Corcoran, mechanical contractor, Hartford.

Pleasing design combined with an expertly planned layout and exceptionally complete physical facilities provide an outstanding environment for teaching and learning at Whiting Lane Elementary School, in West Hartford, Connecticut. Compactly designed to fit a limited site, the building contains over 65 rooms, including 19 classrooms.

A Johnson Pneumatic Temperature Control System efficiently meets the diversified heating and ventilating requirements of this modern school. All rooms are individually comfort controlled by Johnson *Dual* Thermostats, thus assuring the best possible thermal conditions at all times.

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Being pneumatically operated, the Johnson System consumes but a small fraction of the power used by other types of control. For the same reason, it requires far less supervision and maintenance.

Johnson Pneumatic Controls can help give your new school the benefits of a properly controlled thermal environment and, at the same time, keep your operating costs at a minimum. Ask your consulting engineer, architect or local Johnson engineer about the superior comfort and economy features of a Johnson Pneumatic System. Johnson Service Company, Milwaukee 1, Wisconsin. Direct Branch Offices in Principal Cities.

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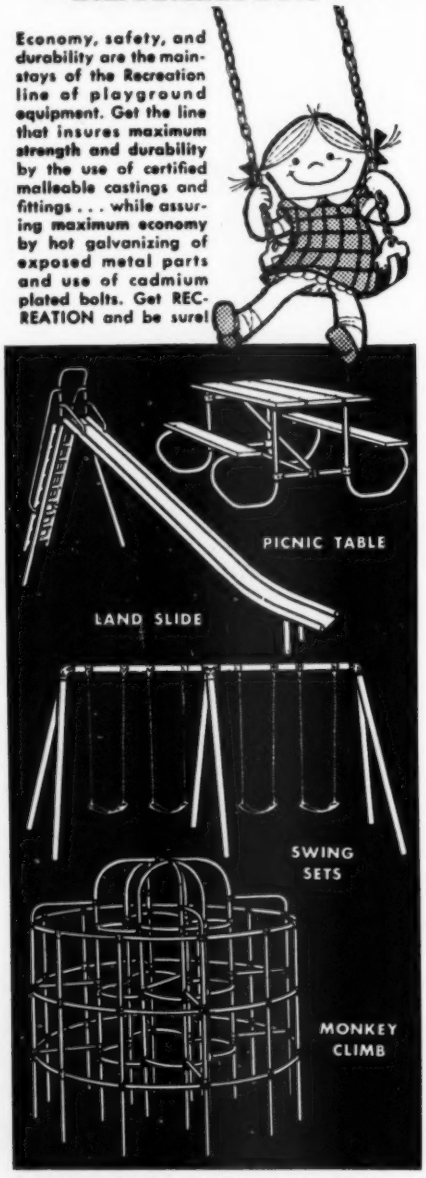

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SM WHERE TO GET HELP

A guide to useful information

ADULT EDUCATION

A bibliography. "A good education" no longer stops at the post-graduate level. Learning acquired in childhood will no longer serve a man for life. Educational programs planned for vital, purposeful living in the later years are fast being recognized as a challenging necessity. Administrators whose schools are running—or contemplating—adult education programs will find this selected annotated bibliography useful.

EDUCATION ON THE AGING, *by Betty Arnett Ward. Published by the U.S. Department of Health, Education, and Welfare, Government Printing Office, Washington 25, D. C. 60¢.*

ADMINISTRATION

The board's role. A distillation of the experience and knowledge of Ed Tuttle who served from 1949 to 1956 as the first executive secretary of the National School Boards Association. It is intended to provide a broader outlook and a greater depth of understanding of the role of the school board in American education. The book is arranged in three parts: Various aspects of the service of local school boards to their communities; the school boards association movement, and ways to strengthen our system of universal public education through school board leadership.

This book is an excellent instrument for educating the new school board member and can be read with profit by the lay citizen.

SCHOOL BOARD LEADERSHIP IN AMERICA. *By Edward M. Tuttle. Published by The Interstate Printers, Danville, Ill. $5.*

Statistics. In discussions of the problems of education in the United States, consideration is frequently given to the pressing problems of rural education.

In carrying out its responsibility to provide current information on educational conditions in the United States, the Office of Education has in the past provided limited statistics on rural education.

The present publication of statistics for 101 highly rural counties represents an important milestone in the statistical program of the Office of Education. The outstanding characteristic of the publication is that it presents, for the first time, data for individual rural school systems on the basis of a direct collection of data. In the previous pub-

continued on page 16

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Sales training. A survey spotlighting business-school cooperation.

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QUANTITY FOOD PREPARATION. *Published by the U. S. Department of Health, Education and Welfare, Washington 25, D. C. 35¢.*

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INSTRUMENT AND CONTROL ENGINEERING. *By Lloyd Slater, Published by the Bellman Publishing Co., P. O. Box 172, Cambridge 38, Mass. $1.*

Vocational education. A manual for schools educating for industry.

VOCATIONAL-TECHNICAL EDUCATION FOR AMERICAN INDUSTRY. *U. S. Department of Health, Education and Welfare, Washington 25, D. C. 25¢.*

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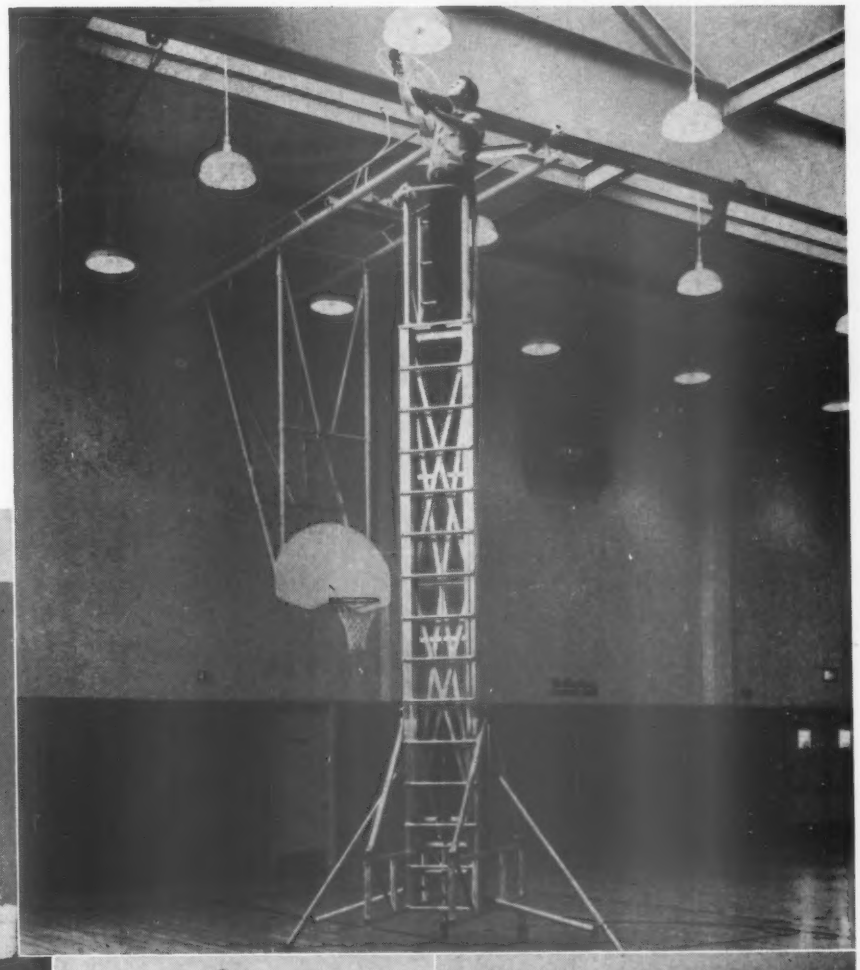
Lightweight, rapidly assembled by one man. Extends instantly for reaching heights up to 30 ft. Telescopes for rolling under trusses and other obstacles. Adjustable legs for uneven floors or stairways.



Rolls through doorways . . . only 29" wide, telescopes and folds down.

Bridges over auditorium seats.

Separates easily into 3 components for convenient storage or transportation.

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(Circle number 768 for more information)

Another First! *Erickson* presents the new concept of

NEW 12 FT. SIZE—Gives you seating-for-eating for 16 youngsters *with trays*. Available with or without benches in both portable and wall models. Wall model features pockets for storing 1, 2, or more.

NEW 10 FT. SIZE
Gives you seating-for-eating for 14 youngsters *with trays*. Available with or without benches in both portable and wall models. Wall model features pockets for storing 1, 2, or more.

new "One-Fold" portables in 5 sizes...

See for Yourself!

AT THE A. A. S. A.

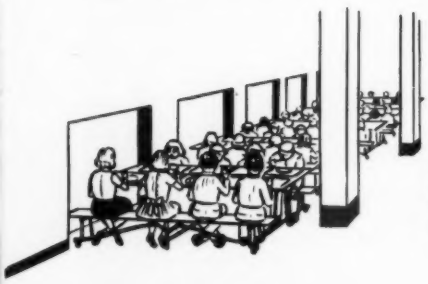
Atlantic City, Feb. 14-18

Booths 1429, 1431, 1433, 1435
(Downstairs)

ERICKSON MAKES SENSE BY GIVING YOU SIZES FOR SMALLER GROUP GATHERINGS

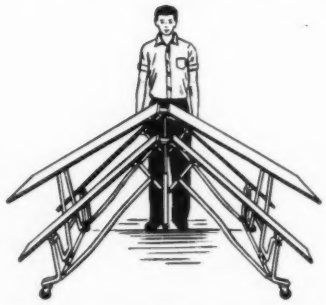
School leaders asked for smaller sized tables with benches to permit smaller group gatherings, particularly for junior and senior high students and faculty members. Erickson engineering went to work. Smaller "One-Fold" units were born. We want *you* to see!

ERICKSON MAKES SENSE BY GIVING YOU MAXIMUM USE OF RESTRICTED SPACE



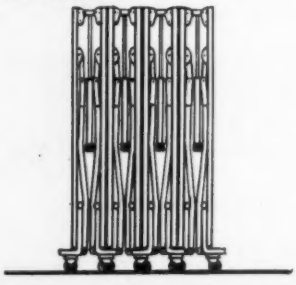
Floor space is precious, as you well know. Now, with Erickson "One-Fold" tables with benches in five sizes from 6 ft. to 12 ft. you can make maximum use of all available area, including areas heretofore wasted because of pillars, etc.

ERICKSON MAKES SENSE BY GIVING YOU BY FAR THE EASIEST FOLDING



Never before in the history of portable fold-a-way lunchroom equipment has folding and unfolding been so convenient, effortless and speedy. This is a vital quality that distinguishes Erickson lunch-tables . . . to help you achieve maximum utilization of your gym, multi-use room or corridor areas.

ERICKSON MAKES SENSE BY GIVING YOU EXCLUSIVE "NESTING" FOR COMPACT STORAGE



You enjoy efficient multiple use of space around the clock with Erickson portables . . . both in use and in storage. Erickson's exclusive "nesting" feature permits storing, for example, four complete tables with benches in an area less than three feet wide.

ERICKSON MAKES SENSE BY GIVING YOU UNOBSTRUCTED WALK IN . . . WALK OUT DESIGN

Here's advanced styling for better appearance with special convenience especially appreciated by girl students and women teachers. In Erickson there's no compromise with quality. You get bonus features such as high pressure plastic tops *and* benches for cleanliness and lifetime service.

of seating-for-eating

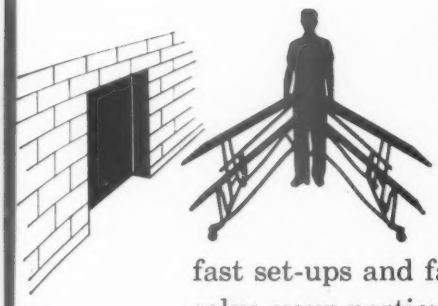
NEW 8 FT. SIZE
Gives you seating-for-eating for 12 youngsters *with trays*. Available with or without benches in both portable and wall models. Wall model features pockets for storing 1, 2, or more.

NEW 7 FT. SIZE
Gives you seating-for-eating for 10 youngsters *with trays*. Available with or without benches in both portable and wall models. Wall model features pockets for storing 1, 2, or more.

NEW 6 FT. SIZE—Gives you seating-for-eating for 8 youngsters *with trays*. Available with or without benches in both portable and wall models. Wall model features pockets for storing 1, 2, or more.

new "One-Fold" wall tables in 5 sizes

Erickson MAKES SENSE BY MAKING THE MOST OF YOUR MULTI-USE ROOM!



Erickson, the name you associate with efficient fold-a-way lunch-tables, brings you another important advancement in seating for eating. Here are new portables and new wall tables, with or without benches, in *five* different sizes, each with "One-Fold" action. Now, the Erickson way of solving your lunchroom problem makes more sense than ever. Here's the ease of operation you need for fast set-ups and fast removal . . . here's the only *complete* selection of sizes to best solve your particular problem in any area no matter how cramped or restricted it may be . . . here's extremely efficient equipment for smaller group gatherings, especially suited for junior-senior pupils and faculty. Here, too, is the unequalled Erickson reliability you expect from the leader of the field. Let us send you details!

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Gentlemen: Please send complete information on

☐ new "One-Fold" portables ☐ new "One-Fold" wall tables

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CITY _____ STATE _____

lications of statistics of rural education, the data for the rural areas were derived by subtracting city school system data, as reported by individual cities, from statewide data, as reported by state departments of education.

STATISTICS OF PUBLIC SCHOOL SYSTEMS IN 101 OF THE MOST RURAL COUNTIES *1955-56. Published by the U. S. Department of Health, Education and Welfare, Washington 25, D. C. 20¢.*

CURRICULUM

Gifted Children. An authoritative, practical report on the whole subject of the gifted child in today's society. Written by Willard Abraham, head of the Division of Special Education at Arizona State College, this volume offers helpful suggestions to parents and teachers on dealing with the special problems faced by the gifted child. Suggestions for the handling of such children in every situation from the home through school, college and beyond, are also included.

Each year millions of dollars are spent on handicapped and retarded children. It is time, says the author, for this country to devote as much money and attention to the gifted children from whose ranks must come our future leaders in every field.

COMMON SENSE ABOUT GIFTED CHILDREN. *By Willard Abraham. Published by Harper & Brothers, 49 East 33rd Street, New York, 16, N. Y. $5.*

Guidance programs. A comprehensive survey of current school guidance programs, together with a discussion of the ethical and legal status of guidance workers. The authors stress the importance of cooperation among the whole faculty, parents, and the community, in initiating and coordinating guidance activities. Concrete suggestions on the organization and administration of such services are also included.

ADMINISTRATION AND ORGANIZATION OF THE GUIDANCE PROGRAM. *By Dean C. Andrew and Roy DeVerl Willey. Published by Harper & Brothers, 49 E. 33rd St. New York 16, N. Y. $4.50.*

LANGUAGES

Foreign language study. Thorough revision of materials and methods used in teaching modern foreign languages in the secondary schools is a growing need today. This bulletin summarizes the U.S. Education Department's conference on the subject. Among the items discussed are: the use of language laboratories for listening comprehension and oral practice, extension of existing programs to include new languages, the establishment of better evaluative standards and the need for further research.

MODERN FOREIGN LANGUAGE IN THE HIGH SCHOOL. *Published by the U.S. Department of Health, Education, and Welfare, Government Printing Office, Washington 25, D. C. $1.00.*

PUBLIC RELATIONS

Explaining the budget. In Kingston, N. Y., the city schools recently published an annual report covering school finances. Instead of producing a dry balance sheet, they turned out a 90-page, ring-bound, brochure covering the whole scope of school operations for the previous year, the school calendar, the educational accomplishments of the schools, and a humanized financial report.

A limited number of copies of the report, called SCHOLARS AND CENTS, *is available to schoolmen who write to Robert S. Macdonald, Assistant Superintendent, Kingston City Schools, Kingston, N. Y.*

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ORDER THIS HIGH QUALITY FURNITURE FROM THE NEW KEM TECH SCIENCE FURNITURE CATALOG, it is priced on the basis of large production runs, and you receive substantial cost savings with no sacrifice in quality. It will pay you to investigate this flexible line for any science room requirement.

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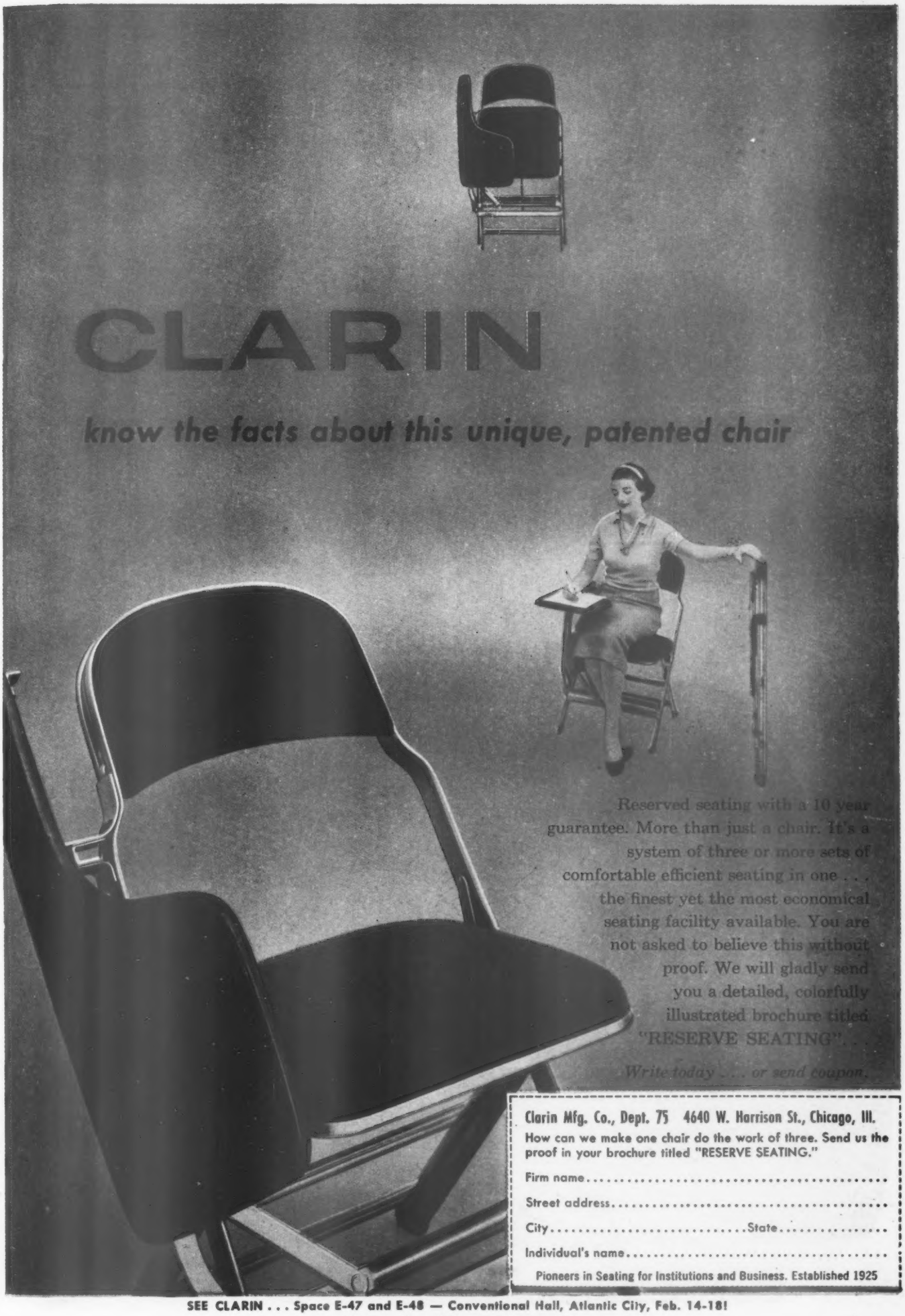
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Reserved seating with a 10 year guarantee. More than just a chair. It's a system of three or more sets of comfortable efficient seating in one . . . the finest yet the most economical seating facility available. You are not asked to believe this without proof. We will gladly send you a detailed, colorfully illustrated brochure titled "RESERVE SEATING". . .
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SEE CLARIN . . . Space E-47 and E-48 — Conventional Hall, Atlantic City, Feb. 14-18!

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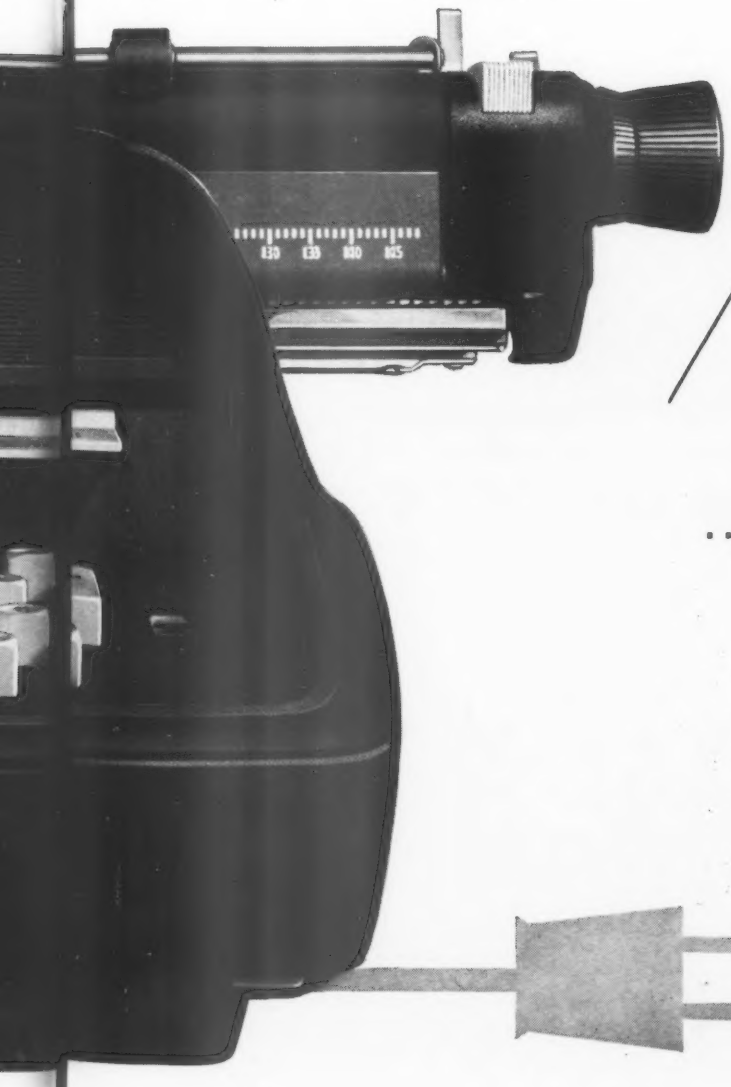
is the new IBM Electric



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The low, sleek profile and sculptured lines tell you—this is new. The alive, eager response of the individually adjustable keyboard... the new IBM 13" Quiet-Glide Carriage that ends the crash of carriage stops . . . these and 25 other engineering achievements make teaching easier, help students advance more rapidly. Dependable, easy to maintain—this is the world's finest teaching typewriter.

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Note imbedded Nylon plug locks screw automatically
SEXAUER
EASY-TITE
Note Fiberglas backing — resists closing squeeze

NEW WAY TO

Prevent Faucet Leaks!

★ 9 out of 10 washers are fastened with screws that are TOO LONG or SHORT. The screws quickly loosen; the loosened washers are destroyed thru grind and squeeze of opening and closing faucets.

34 years of research uncovers new solution

★ Now, NEW (Patented) 'Sexauer' SELF-LOCK Monel screws, with an imbedded expanding NYLON PLUG, lock at the required depth AUTOMATICALLY, hold washers FIRMLY! Made of rustproof, non-corroding Monel, heads don't twist off, screw slots don't distort. They are easily removed when necessary, can be re-used repeatedly.

★ Used with NEW 'Sexauer' EASY-TITE faucet washers, they make a combination that outlasts past faucet repairs "6-to-1"! EASY-TITES are made of super-tough, pliable du Pont compound (neither rubber nor fibre) and reinforced, like a tire, with a vulcanized layer of Fiberglas. They resist distortion and splitting from shut-off grind and squeeze.

Hidden costs of faucet leaks!

Faucet leaks are costly! As authenticated by Hackensack, N. J. Water Co. and American Gas Association, stopping just ONE PIN-HOLE SIZE (1/32") LEAK can reduce water waste 8,000 gal. quarterly. If a HOT WATER FAUCET LEAK, water and fuel savings JUMP to over $7.58 QUARTERLY—plus additional savings on MATERIALS, LABOR and costly FIXTURE REPLACEMENTS!

NEW SELF-LOCK screws and EASY-TITE faucet washers are just TWO of the "SEXAUER" line of over 3000 TRIPLE-WEAR plumbing repair parts and Pat'd. precision tools.

A "SEXAUER" Technician in your vicinity will make our NEW 126 page Catalog "H" available. He will gladly consult with you regarding a SURVEY of your plumbing fixtures to determine correct repair parts required and establish reasonable stock levels that avoid both overstocking and shortages—thus providing for efficient stock arrangement and control—all without obligation. WRITE TODAY!

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WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

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P-S-S-T-!

LOOK OVER THERE

It's a suggestion that will help make your school look a lot better —with a lot less work and a lot less cost.

After you have read it, why not tear out the page and pass it on to the man responsible for floor care.

You'll both be glad you did.

Monroe FOLDING BANQUET TABLES

Direct Prices and Discounts to Schools, Churches, Clubs, Lodges and All Organizations

COMPLETE CATALOG ON REQUEST

TRUCKS FOR FOLDING TABLES

Monroe TS (transport - storage) Trucks make handling and storing of Folding Tables easy and quick. Combination offers.

STEEL FOLDING CHAIRS

Monroe Steel Folding Chairs in attractive range of styles, sizes and prices. Excel in comfort, easy handling and durability. Also full line of non-folding chairs, desks and combinations for classroom, cafeteria and church school use.

PORTABLE PARTITIONS

Monroe's new movable partitions change idle space into useful areas. Smooth Masonite panels, tubular steel frames. Swivel pedestals, casters or glides.

THE Monroe COMPANY
106 Church St. Colfax, Iowa

(Circle number 750 for more information)

Merit pay

SIR: Your article on merit pay *(SM, Jan. '59)* was the fairest, most objective discussion of this subject, pro and con, I have seen in a magazine. This article should alert every reader to the fact that "merit pay" in teaching involves complex problems, must be studied carefully, is not a cure-all.

ERIC RHODES, ASSISTANT DIRECTOR
MEMBERSHIP DIVISION
NATIONAL EDUCATION ASSOCIATION
WASHINGTON D. C.

▪ *Dr. Rhodes was a special NEA consultant on merit pay.* ED.

Orchids and ice cream

SIR: Just finished reading SCHOOL MANAGEMENT and enjoyed it, as usual.

I got a chuckle from the article about the district administered from an ice cream plant *(SM Dec. '58, pg. 24)*, partly because, as a high school student, I worked in an ice cream plant. And, my present office is in unusual surroundings.

This is the former showroom and store of the Brighton Farms Nursery. The office suite opens into the nursery. New Jersey produces three out of five Cattleya orchids sold in the U. S. and Brighton Farms is one of the top three growers in New Jersey. In the nursery are some 90,000 orchid plants in all stages of growth and there are always hundreds of orchids in full bloom.

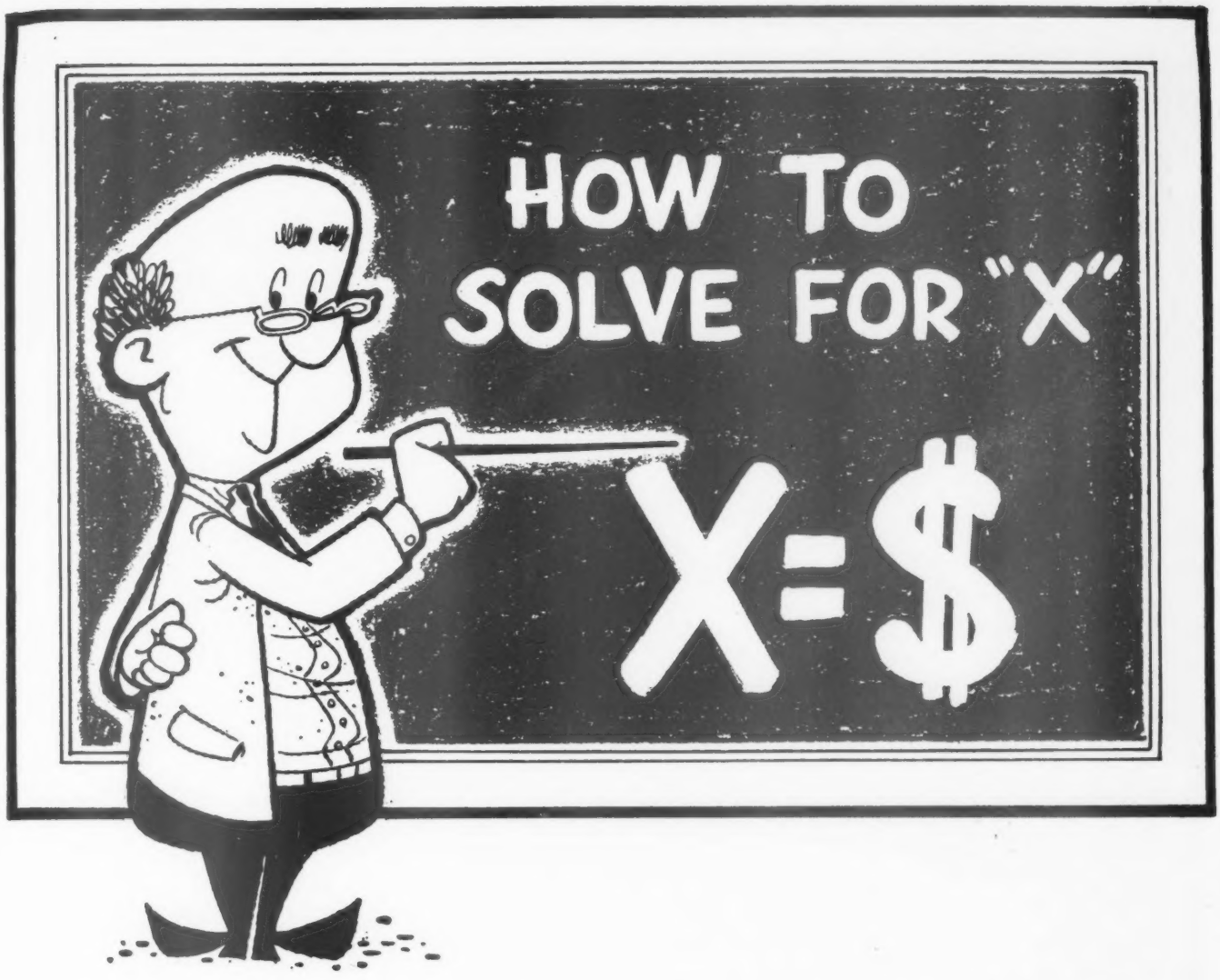
Right now there are nine orchids blooming in my office, including an uncommon red bloom. Last month one pot had 11 large purple blooms. The bougainvillea has begun to bloom and I expect to have cascades of those flowers all winter.

WILLIAM R. STOVER
SUPERINTENDENT
ATLANTIC COUNTY, N. J.

What industry wants

SIR: I have read with great interest the editorial on page 16 WHAT INDUSTRY WANTS *(SM, Dec. '58)*. You have done the best job of interpreting the report of the Skilled Manpower Committee which has yet been done. Many national magazines, including TIME, gave it a peculiar twist . . .

EARL L. BEDELL, DIRECTOR
TECHNICAL AND TRADE SCHOOLS
DETROIT PUBLIC SCHOOLS



The "X" in a floor wax is the length of time between waxings. Obviously, the longer a wax lasts, the more labor you save. That's because the big cost of rewaxing is the time it takes to remove the old wax and apply the new—not the cost of the wax.

What is your "X"? We don't know. It depends on your own particular conditions—traffic, dirt, frequency of wet-moppings, and it depends a lot on the wax you use.

But this we know, for sure. You can increase your "X" with Holcomb WATER-PROOF WAX because it outwears other waxes, two to five times. It's the toughest wax in the world—all select No. 1 prime Carnauba—a wax with a glossy, hard finish that stands up under heaviest foot traffic and keeps dirt and grit from working into your floors.

Holcomb WATER-PROOF WAX won't chip, check, crack or peel and it can be wet-mopped time after time. Sweeping is easier and faster, so daily maintenance takes less time. And it's so easy to apply.

Let your Holcombman show you how Holcomb WATER-PROOF WAX can help you make your "X" equal more $.

WATER-PROOF WAX
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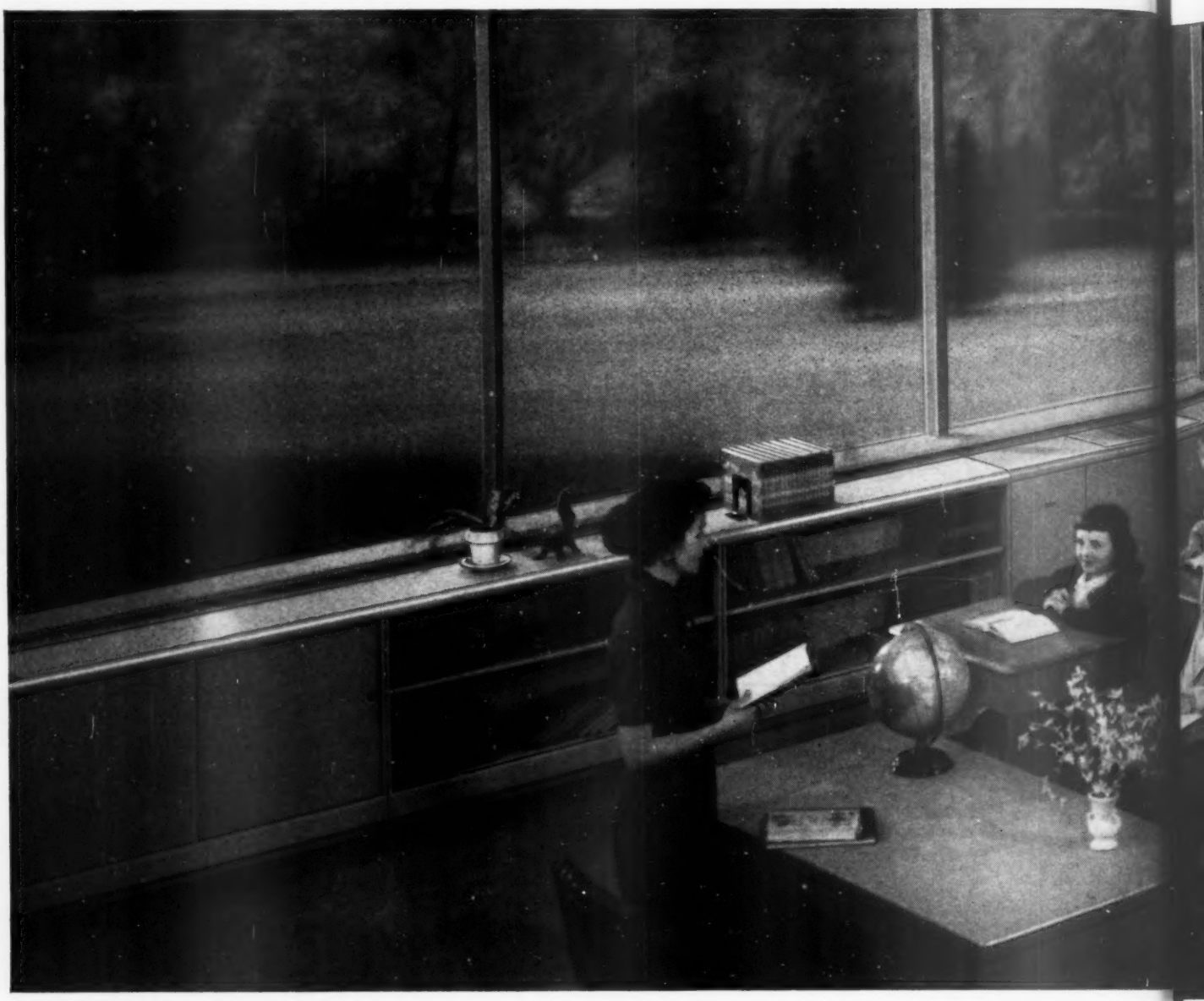


Trane Kinetic Barrier ventilates, warms every

Exclusive Trane Unit Ventilator system gives every pupil, in every seat, an ideal climate for learning . . . all day long

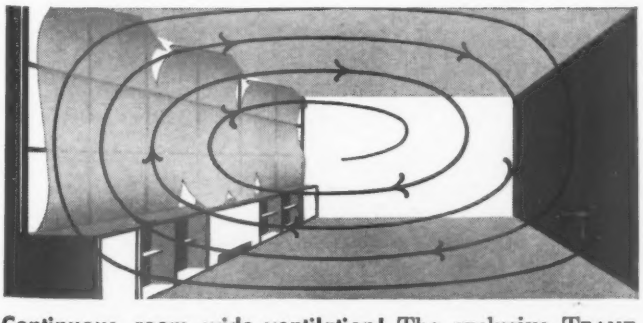
Now, every pupil—*no matter where he is seated*—can enjoy uniform comfort, with no cold window downdrafts, no hot spots, no sleepy corners.

The TRANE Unit Ventilator, with exclusive *Kinetic Draft Barrier*, solves these classroom ventilating problems by providing a rising wall of tempered air along the entire outside wall or window—and by providing *continuous* air circulation that gently distributes tempered air into every corner of the classroom, every moment the room is occupied.

Only the TRANE *Kinetic Draft Barrier* gives room-wide *powered* ventilation! Ordinary systems, with on-and-off action, can allow dead, stale air to pile up in corners. When their action is "off" there is no positive protection from chilling window downdrafts.

So when you plan to build or remodel your school, turn to TRANE for an ideal climate for learning! Have your architect, contractor or consulting engineer contact your TRANE Sales Office. Or write TRANE, La Crosse, Wisconsin.

ends window downdrafts, corner of the classroom



Continuous, room-wide ventilation! The exclusive TRANE Unit Ventilator system provides *powered* ventilation and warmth from room-wide outlets. Air from the unit rises, blends with room air, creates a gentle flow of tempered air.

For any air condition, turn to

TRANE

MANUFACTURING ENGINEERS OF AIR CONDITIONING, HEATING, VENTILATING AND HEAT TRANSFER EQUIPMENT

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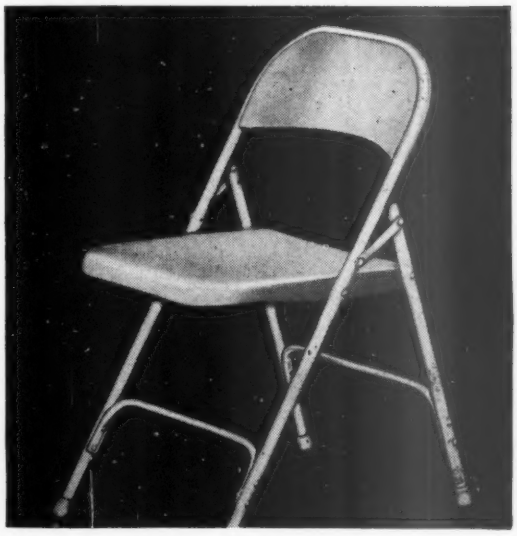
circus strong men can't harm the world's strongest all-steel folding chair



No other folding chair of any design, or at any price, can match the strength of the Samsonite all-steel folding chair. The electrically welded tubular steel frame will not bend or buckle. And no other steel chair has Samsonite's comfort. Seats and backs are designed to prevent tiring, offer maximum seating pleasure.

Samsonite folding chairs rate highest for easy folding. Open ...effortlessly. Close...swiftly. Self-adjusting hinges are designed for extra safety. The baked enamel finish is snag-free, chip and rust-resistant. And to give you even greater value, these Samsonite chairs are now available at amazingly low prices. In your choice of 11 colors.

now at a new low price

For church, club or group seating information, see your Yellow Pages or write: Shwayder Bros., Institutional Seating Div., Dept. SM2, Detroit, Mich.©

Samsonite *folding chairs last longest*

(Circle number 736 for more information)

Two months later, how much has been done?

Here is what some districts have done in the wake of the Chicago school fire. What is your district doing?

■ ■ ■ It is now just two months since that tragic fire in Chicago's Our Lady of Angels School took the lives of 90 students and three teachers. In the wake of that event, fire departments all over the country suddenly became aware of the schools and began making systematic inspections—often for the first time in five or 10 years. Here are some of the results.

In New York City, more than 30 public, private and parochial schools were closed—and some have not yet been allowed to reopen—because fire hazards made their occupancy unsafe. Cynics watching the New York scene have pointed out that just a few months earlier the city went on another fire-inspection rampage because of a series of loft fires which took many lives—but the schools were apparently not considered important at that time.

Fifty-three potential tragedies

In Detroit, school officials stated categorically that there are no fire traps in the city's public school system. But a survey found 54 schools built before 1910, of which just one is rated, by the city's architects, as fire resistant. Many schools have narrow wooden stairways, lack fire doors, have obsolete wiring or fire alarm systems. Altogether, a citizens' committee inspecting the schools *before* the Chicago fire, found 12 buildings inadequately prepared for fire. How many more might they have included after the fire sharpened their sense of danger? A number of classrooms have been closed because of the fire danger.

In Charleston, W. Va., a new regulation was passed by the board of education specifying that students must be evacuated from any building which is on fire, even if the fire is a small one. Until recently each building principal had to decide "whether to have a fire drill when there is a small fire." The new regulation was passed after Fire Chief O. E. Boggess had threatened to lodge a formal complaint with the board when a principal failed to evacuate a school in which a small shop fire had broken out. The fire was put out by three fire extinguishers.

In New Jersey, two Passaic Township schools were closed because of hazardous fire conditions. One, in Morris County, a 58-year-old structure, needs 35 improvements before it can be considered safe. In another part of New Jersey, Newark, it was discovered that 39 schools have no fire alarm boxes connected with fire stations. Fire Chief James T. Owens recommended that they be installed immediately, pointing out that a direct alarm sent to fire headquarters can save precious minutes needed to get a fire under control.

In Boston, an inspection spurred by the Chicago fire brought a difference of opinion on school safety. Charles A. Callahan, superintendent of school building construction, said all Boston's schools are safe. This was disputed by Fire Commissioner Frances X. Cotter who pointed to defective boilers, blocked exits and outmoded fuel pumps. Although these were not denied by school officials, they apparently did not consider them major hazards, even after the Chicago fire.

In Connecticut, two cities reported on their fire prevention efforts. Westport reported all schools safe, but admitted that in at least one there had been no fire drills for over a year. In Hartford, Fire Chief Henry G. Thomas pronounced the schools as safe as possible. This, he pointed out, is the result of a continuing fight on the part of the fire department for safety improvements in the schools. "It has not been easy to get this done," he said. "It has been hard to convince many people that fire strikes with terrible swiftness and tragedy." Thomas said the department had spent many years overcoming resistance to spending $400,000 to build necessary safety features into the schools, but opposition was eventually overcome and the job has been done.

In Washington, D. C., a spot check showed schools with almost a 70% average—in favor of the fires. Of 10 public schools checked, seven had fire hazards. There were also fire hazards in seven of the 11 parochial schools inspected.

In Houston, Tex., the law requires that every elementary and junior high school hold two fire drills a month. High schools must be evacuated once a month. A survey showed that seven schools had held no drills at all during the first six weeks of the semester. One school principal explained that his school had not held a drill because the signal bells do not signal the fire bells properly. But, the principal insisted, "In case of a real fire, we could get the children out all right."

Two good ideas

On the plus side in Houston is a fire brigade made up of student ROTC and football team members at one high school. Football players help to evacuate students while ROTC members man 18 hose stations until the regular fire department arrives. The students were chosen from these two groups because they are able to apply the discipline they have learned.

Another good fire practice was reported in Garden City, N. Y., where a student fire patrol operates in the high school. There are 21 members of the group. They inspect the school regularly, checking conditions of hoses, extinguishers and other equipment, report any accumulations of waste and act quickly to stop student smoking.

The fire patrol is also in charge of the 12 drills the school must hold each year. The students schedule them and inform only the group's adviser and the school's principal as to when they will be held. The patrol has experimented this year with blocking exits to test the ability of students and teachers to find an alternate exit in case of an actual fire. **End**

School days are happy days...with

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"Meet you at the locker", standard invitation of our young society. Here, friends meet, and the future of America takes shape. Republic Steel Lockers offer even more than these important aesthetic values.

They offer architects, engineers, and designers built-in beauty that goes with the pride of any school. Built-in protection of personal effects, plus adequate storage.

They offer school administrators over-the-years economies through low original costs, low installation costs, practically no maintenance costs. Here's why:

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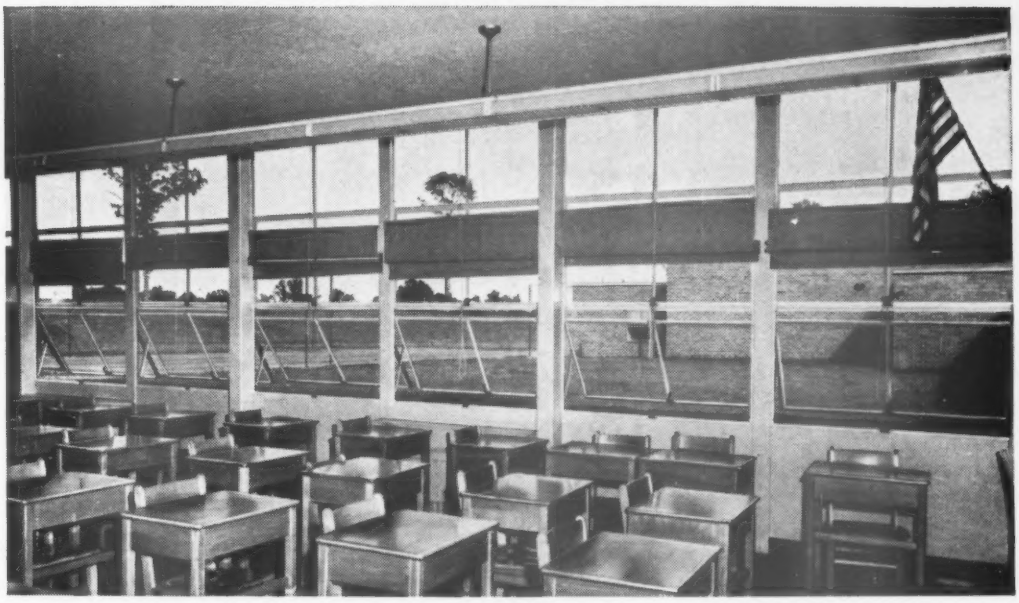

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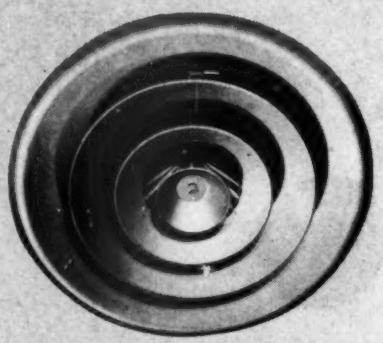

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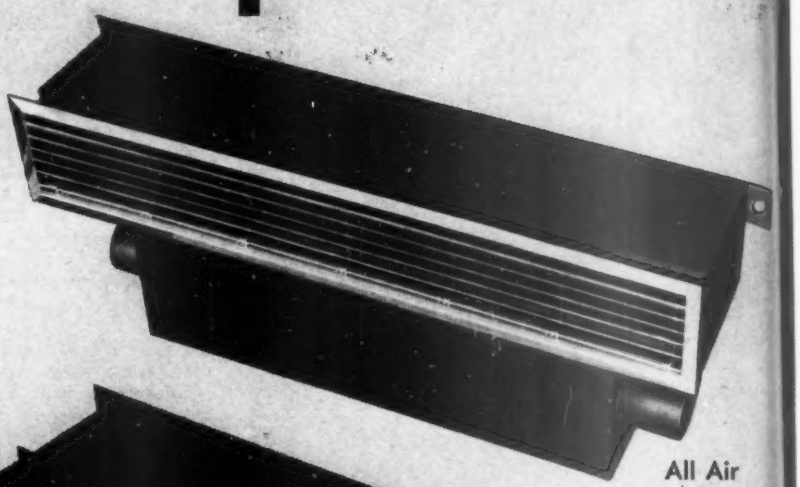

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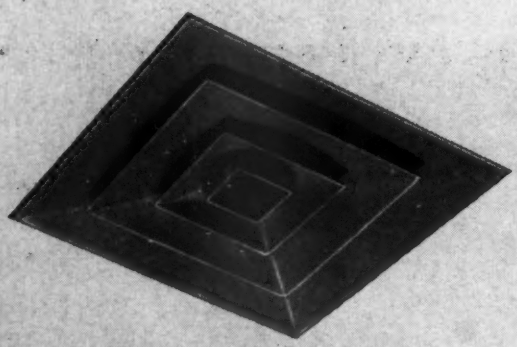

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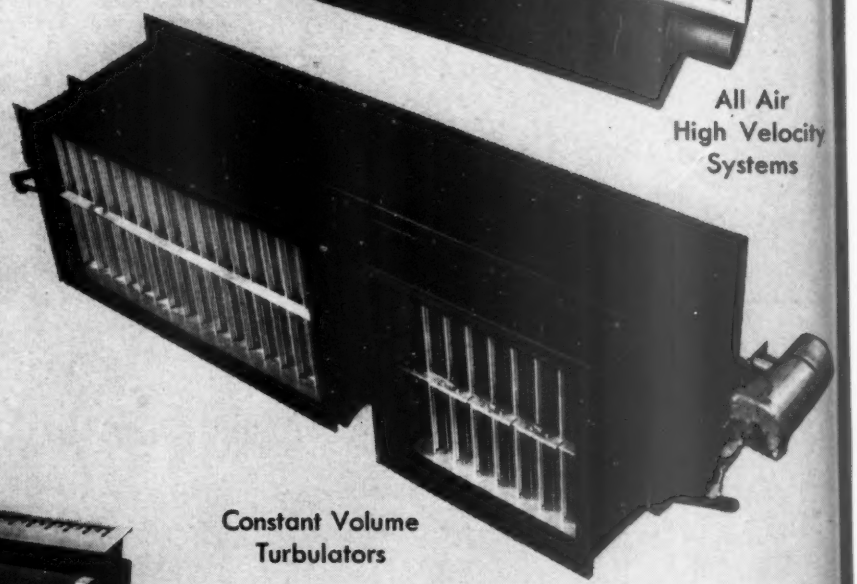

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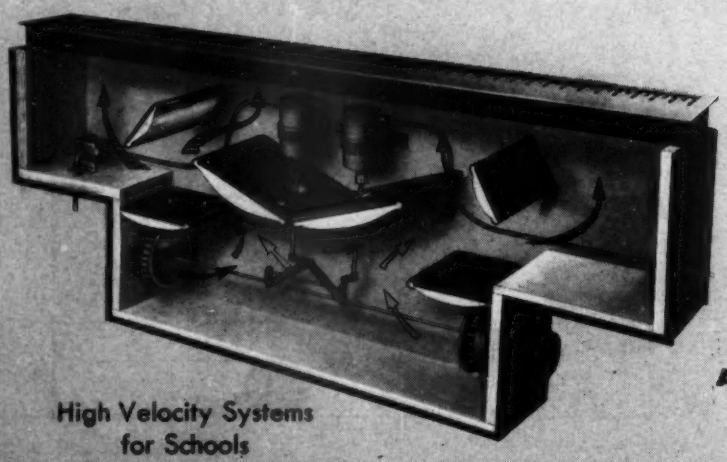

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NEWS OF THE SCHOOLS

A digest of current happenings in public education

High school seniors teach own math classes

Two high school seniors in Norwalk, Conn., have taken over the teaching of their math classes in an effort to fill in for the regular teacher who is out for at least two months with infectious hepatitis.

Faced with an absent math teacher, the school looked to the community and its own staff for an adequate substitute. Although other math teachers were able to fill in on a couple of courses, no adequate substitutes were available, on a regular basis, from the community.

With the possibility of missing out on two months of mathematics instruction looming before them, two senior students took matters into their own hands. Student Council President Joseph Ganino and Martin Gerstel approached Principal Eric Malmquist with a suggestion: they would take over the absent teacher's classes.

Principal Malmquist accepted gratefully. One student is now teaching intermediate algebra, which he studied two years ago, and his own class in trigonometry. The other is the class instructor in advanced algebra, a course he is taking while teaching.

The student instructors keep up with their teaching assignments by means of daily phone calls to their math instructor. Discipline has been no problem for either of the student instructors.

Language tapes tell accents of country

All languages have their dialects drawn from different parts of the countries using them. Just as the drawl of the deep south or the voices of Brooklyn, differ from the English of London, not all French sounds alike. And so, in order to give her students at Ferndale, Mich., High School a broad view of French speech, Mrs. Jacqueline C. Elliott, the instructor, has taped the accents of the various provinces.

A native of France, Mrs. Elliott recorded the voices of engineers, exchange teachers and professors who have moved to the United States recently. Included in her eight different tapes are the speeches of a French Canadian and a French-speaking native of Switzerland.

In the Ferndale French laboratory (where no English is spoken), the students listen to the tapes in isolation booths. The speaker reads and then asks the student a question. This can be heard through a system of mike to ear receiver.

"It permits the student to hear French as spoken not only in Paris but from all the French provinces," Mrs. Elliott explained.

Board investigates teacher X-ray fears

A board of education ruling in Clifton, N. J., requiring all teachers to have an annual X-ray is being studied this year as a result of teacher fears of radiation poisoning.

The teachers are requesting that X-rays be mandatory only once every three years. State law provides that teachers must submit to physical examinations once a year but makes no mention of X-rays.

The board of education, though skeptical of teacher fears, appointed a committee of two, including Superintendent William Shershin, to meet with the teachers, learn the basis of their fears and recommend a policy for the future.

Paperback classics spur high school English

A revival of English at the Falls Church High School in Fairfax County, Va., is directly attributable to a far-sighted teacher—and paperback editions of classic novels.

Teacher Geraldine Lenzin, head of the school's English department, was a little disturbed last year concerning the attention being given to improve science instruction in this post-Sputnik world. It wasn't that she objected to better science courses but they shouldn't be at the expense of English, she reasoned. "If we could accelerate science courses," she said, "we might just as well accelerate English, too."

She first attempted to rehabilitate the English courses by obtaining sec-

Too good to miss . . .

For safety's sake . . . Metal rulers bearing the slogan "Play Safe, Rule Out Accidents" were ruled out of the Grosse Pointe, Mich., schools recently when a school committee decided they were unsafe. The rulers had been prepared by the city's Fraternal Order of Police and had been designed to publicize a two-week traffic safety campaign.

Scientific interest . . . How much do schools really want to improve their science teaching? Not much if this story from Maine is any indication. There, of better than 20 schools invited to participate in a program designed to improve science teaching through an exchange of ideas program, just three accepted and two others expressed interest. No comment so far from the other 15.

Expert advice . . . A citizens advisory committee to the school board in Bethpage, N. Y., includes students as well as community leaders. The students will be active committee members and will be called upon to express students' views on important educational issues.

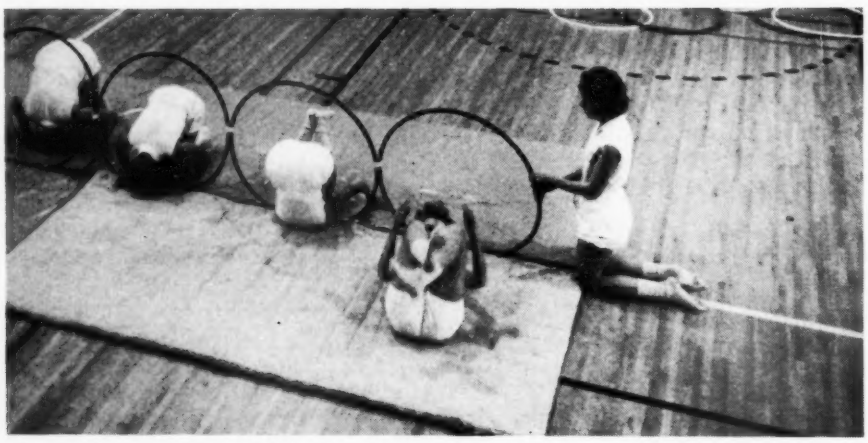
ond-hand copies of classics for cheap distribution. But this proved a tiring and fruitless job. Her next step was to contact a major Washington, D. C., distributor of paperback books.

Mrs. Lenzin soon discovered that more than Mickey Spillane and Agatha Christie is published in soft editions. She obtained a list of available books, including most of the world's great fiction, biography, history, drama and poetry. By arrangement with the book distributor, a six-foot shelf of paperbacks was set up in the school's student store.

The books sell for 25¢ to 75¢ and at any one time there are 120 different titles to choose from. "We're trying to stick to classics," Mrs. Lenzin says, "but we also want to stimulate reading. Some of the books have wide sfudent appeal. If we can stimulate kids who aren't academically minded to forget that this is longhair stuff, we have a success."

How successful has the idea been? In the first 23 days the bookshelf was up, 1,100 copies were sold. Since then the pace has continued, with 40 or 50 books purchased each day. Students are carrying the books under their arms wherever they go—and what's more important, they're reading them. Students in one class, for example, are able, with paperbacks, to study the Greek tragedies, Ibsen, Shakespeare and O'Neill, and they're doing it.

Look what they're doing . . .



Freeswinging Freeholders make use of hula hoops to conduct many traditional physical education exercises. Here a line of girls prepares to take turns somersaulting through their hoops.

Healthy highschoolers say Hip, hip hoo(p)ray

■ While many school districts were quickly passing legislation last September to keep hula hoops out of their buildings, physical education experts at the Freehold, N. J., Regional High School were welcoming them with open arms.

For three years before the hoop mania swept over the nation's youth, Charles Nelson, director of the physical education department, had been searching everywhere for hoops to use in his girls' physical education program.

No sports equipment house was able to supply them. Just as the district was about to vote on an appropriation to have the hoops specially made, a hip-swinging youngster wove his way into the school and solved the problem.

With inexpensive polyethylene hoops suddenly in the possession of every able-bodied child in the area, the school was able to order enough hoops to keep its physical education courses going for years. Five dozen were ordered at a cost of just 30¢ apiece.

How are the hoops used? The young coeds swing, balance, hop, twirl and throw them in rhythmical exercises designed to improve physical conditioning and muscle tone.

Classes are divided into groups of six or eight girls and each group must devise some new form of exercise with the hoops. The best routines developed this way become part of mass drills. The plastic hoops have brought new interest to warm-up periods, and, unlike traditional Indian clubs and wands, are useful for exercising all parts of the body.

What next for the hoops? Before long, Nelson hopes to try them out on the boys classes. Then, perhaps, Freehold will be ready to issue a challenge to other schools to participate in the hoop-throwingest, hip-twirlingest national scholastic championship meet ever.

Green-thumbed students plant on school grounds

Junior high school students in Fair Lawn, N. J., have taken on the job of beautifying their school grounds. Under the direction of Teacher Arnold Pressman, the students organized a "Green Thumb" club and started planting flowering bulbs around the school.

A concomitant group working in the school shop undertook to construct a fence to protect the planted area. The joint student project will result in a carefully landscaped area next spring at almost no cost.

That was no gun shot; that was the school

Residents living near the Quandt Elementary School in Allen Park, Mich., are apt to be awakened these nights by the sound of rifle fire echoing from the vicinity of the school building. But they needn't worry. No dirty work is afoot. It's just the building cracking up.

The Quandt school, built in 1928, is sinking, apparently because the northeast corner is being undermined by soil erosion. Although the building has been patched, and the sinking corner was underpinned three years ago, new cracks seem to appear daily. The building was inspected last September and is structurally sound, but unwelcome air conditioning through cracks between windows and walls and gaps between floors and walls are somewhat disconcerting. And even more disconcerting are the rifle-shot-like sounds that resound through the building and the surrounding neighborhood as the building shifts some more and opens new cracks in its walls.

And we thought it was the younger generation that was supposed to be cracking up—not their schools.

Parent volunteers correct standard achievement tests

A volunteer group of 39 mothers representing 16 schools in the Cupertino, Calif. school district has saved

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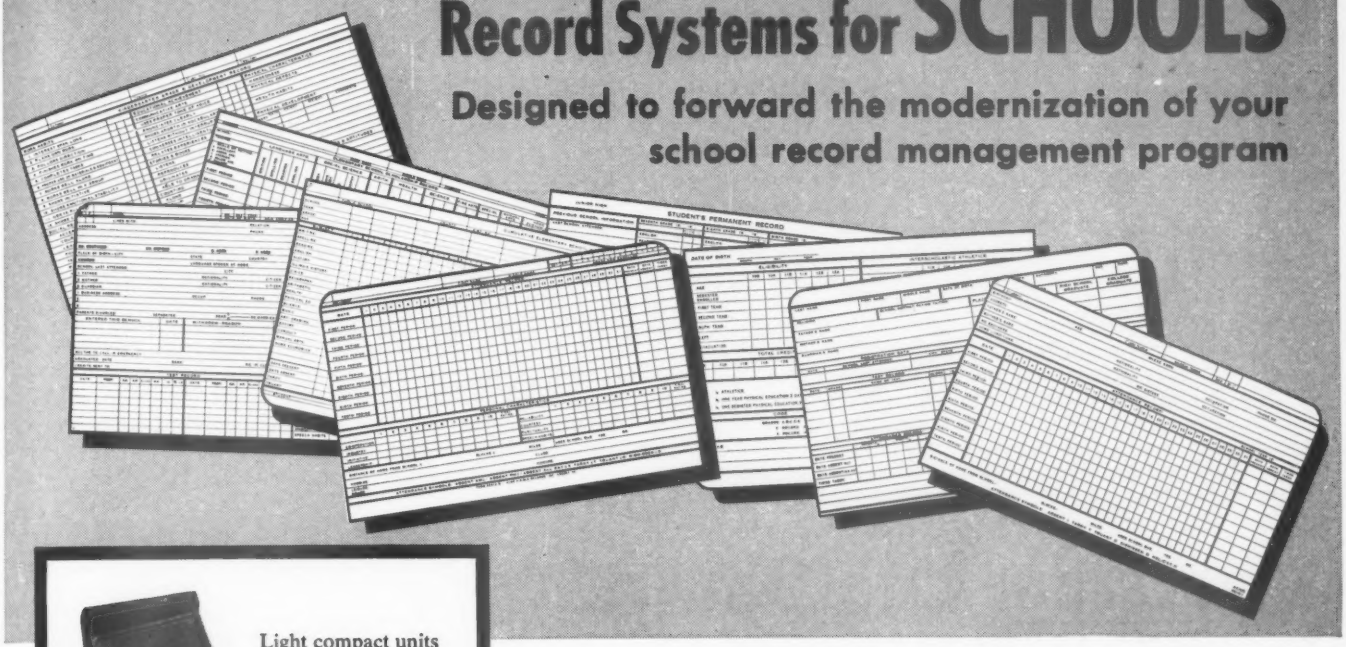
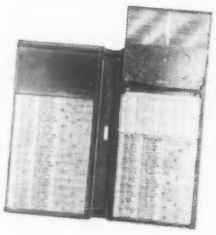
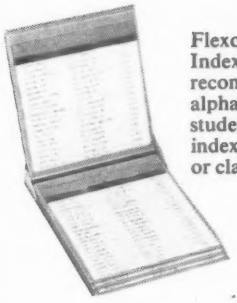


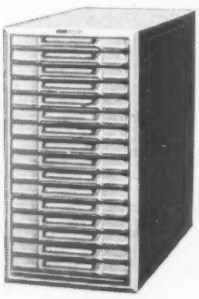
Light compact units to hold 38 or 51 cards. For handling of student records in the classroom.



Ideal for cumulative grades taken from classroom records, combined with enrollment and vital statistic records.



Flexoline Insite Indexes are recommended for alphabetical lists of students and cross index to home room or class.



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- Student's Permanent History Record

SENIOR HIGH SCHOOLS
- Student's Permanent History Record
- Attendance
- Program Record
- Physical Education Department Record

TEACHERS
- Teacher's Accumulative Service Record
- Teacher's Accumulated Leave Record
- Teacher's Payroll

MISCELLANEOUS
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- Book Rental
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the schools an estimated $1,678 by contributing 697 hours of help in connection with a newly developed achievement testing program.

By assisting in the scoring of standardized tests given in grades three, five and seven, the mothers relieved teachers of many tiresome, but necessary, clerical tasks, and freed them for classroom work. Further, test results were available more quickly than usual.

District Superintendent Frank Fenley, in praising the mothers, said: "This is an outstanding demonstration of the close working relationship of home and school which is necessary today to provide for the children."

Utah schools train service station operators

An educational work program, designed to fashion top notch service station attendants from high school seniors, proved so successful in the pilot effort that it has been launched as a full scale project at Salt Lake City.

Seventeen students were enrolled in the original program of which 13 are still working as service station attendants—many using their wages to help support them in college. Present enrollment is 43.

The program, sponsored jointly by the state department of vocational education, the Utah Department of Employment Security and the Utah Association of Petroleum Retailers, calls for screening of applications by the employment security group.

Those that pass the screening attend classes from 4 to 6 p.m. for one week, then work a minimum of 15 hours during one week at a service station. They alternate the work and study weeks for a total of 14 weeks. Their instructors are the service station operators.

Students learn how to test batteries, do lubrication jobs, check ignition systems, test anti-freeze level and similar tasks of car maintenance. During the learning period they earn a "tuition fee" of 75¢ an hour and commissions during the time they are at the stations. When they become regulars they are paid full scale wages.

Police evaluation rejected on texts and courses

Attempts by members of two Eastern school boards to get police approval of courses and books have met with growing opposition from educators, newspapers and, in one case, the police agency itself.

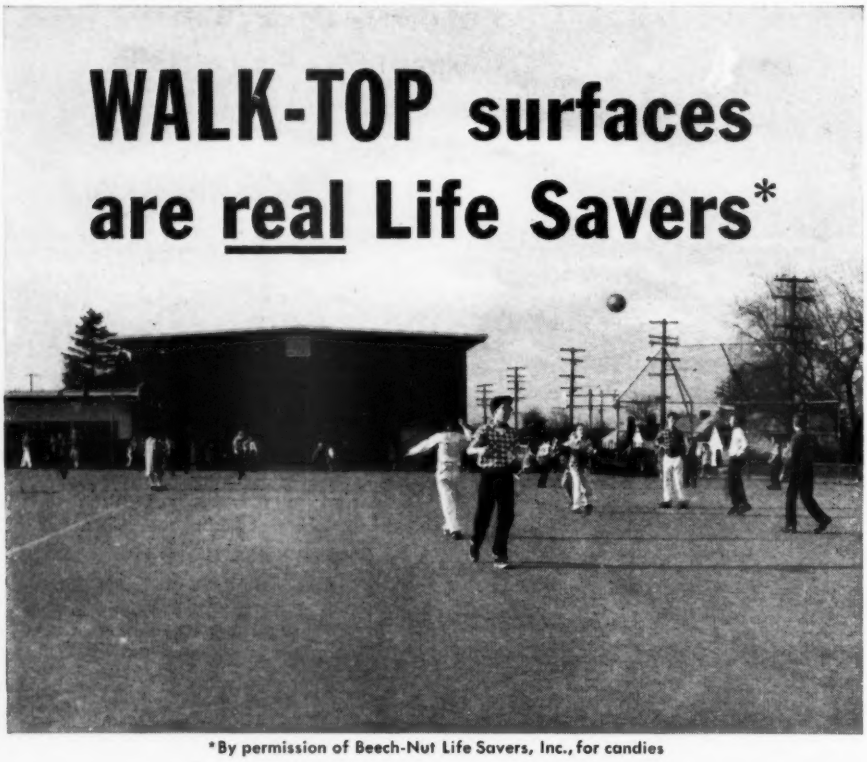
In East Paterson, N. J., a complaint from a resident that the schools are using two of 11 texts criticized in the book "Brainwashing in Our High Schools," by E. Merrill Root caused the board to ask the Federal Bureau of Investigation to look into the matter and report on the authors' loyalty.

At the same time Superintendent Thomas Shaheen and the principals of the district's seven schools, issued a statement saying they were convinced of the value of the books in question and expressing confidence in the selection committee.

Maintaining that it is the right and duty of all schools to present both sides of a controversial issue, the statement said "We can no more support the wisdom of keeping information from children than we can of suppressing their right to read a variety of newspapers, magazines and books which will invariably present conflicting viewpoints. Regimentation of the mind cannot be accepted as the American way of life." The statement concluded by inviting all members of the community to come to the school, borrow one of the "objectionable" texts

continued on page 37

WALK-TOP surfaces are real Life Savers*



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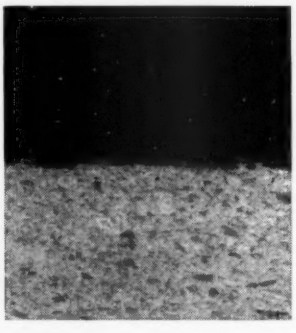
On playgrounds and other surfaced areas, Laykold® Walk-Top has proved safe and resilient, with truly "life-saving" qualities.

Over any sound and stable pavement base, Walk-Top provides a smooth, long-wearing surface seal that extends the life of the base. And because it is non-abrasive, it reduces skins, "burns" and other injuries normally associated with play-yard falls and tumbles.

Call our office nearest you for full information on Walk-Top today. Our Laykold Engineers will welcome an opportunity to give you the full "Walk-Top/Life Saver" story.



Here you see, close-up, a comparison between an ordinary road-type surface before (below) and after application of Walk-Top. Smooth, resilient and safe, Walk-Top is a real Life-Saver for the pavement, as well as for play shoes and clothes. Holds "skinned knees" to a minimum, too.

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There is nothing you can buy that will save more space or provide greater mobility. Yet it's a single, one-piece unit. It's smoothly functional, with desk top adjustable to scientifically determined angles, swivel seat, and fore-and-aft movement.

Because it is designed for good posture and comfort, it reduces classroom distractions to a minimum. It's pleasingly modern, and finished in durable, school-coordinated colors. What's more, it utilizes the most advanced materials of construction to be as vandalproof and tamperproof—studentproof—as modern engineering can devise.

Now. There's much, much more, but the point is this: Better see the exciting Individual STUDY-CENTER before you buy *any* furniture. It costs no more to have American Seating quality for your school. We'll gladly arrange a demonstration. American Seating Company, Grand Rapids 2, Michigan.

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New American Seating Individual STUDY-CENTERS are as fresh and new as all outdoors! Fully adjustable for all school tasks and varying student sizes, their functional design meets the growing need for a truly flexible classroom unit. Photographed at beautiful Florida Cypress Gardens.

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THE INDIVIDUAL Study-Center

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The combination of desirable features in this totally new American Seating classroom unit makes it more than just another desk of advanced design. It is in fact just what its name indicates: a compact, self-contained, *individual study center* designed to meet every need of the student.

Read these vital statistics: *Desk top* adjustable to 8° and 20° for writing or reading; rests level for manipulative tasks. And it's made of non-glare Amerex® (exclusive high-pressure plastic laminate), aluminum-banded, steel-supported. *Book-box* of die-formed steel is exceptionally roomy, adjustable up and down, and the bottom is flat so books stay put and papers won't curl. *Seat* is compound curved, adjusts up and down, moves fore and aft, swivels 45° each way on silent nylon bearings. Curved *back* is self-adjusting, with double-offset back braces, and positioned to encourage correct posture. Both seat and back are of Amerflex, a remarkably tough yet resilient material entirely new to school seating.

By all means, arrange a demonstration of the new Individual STUDY-CENTER, soon. It will reveal what can really be done in school seating when the finest research and design facilities in the business set their minds to it.

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INDIVIDUAL STUDY-CENTERS • CLASSMATE® SCHOOL FURNITURE • UNIVERSAL® SCHOOL FURNITURE • ENVOY® SCHOOL FURNITURE • BODIFORM® AUDITORIUM CHAIRS • STADIUM SEATS • CHAPEL FURNITURE • FOLDING CHAIRS AND TABLES

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and see for themselves what all the shouting is about.

Meanwhile, the FBI in a letter to the board, declined the invitation, stating that the matter of textbooks is "to be determined by professional educators." This position had been suggested earlier in an editorial in the influential *Bergen (N.J.) Evening Record* which said "It is respectfully submitted to the East Paterson Board of Education that the Federal Bureau of Investigation is simply incompetent as a trustees' adviser on the fitness of United States history texts used in the borough's schools. It is assumed the FBI will similarly evaluate its duties and responsibilities and area of competence."

At the same time a controversy over a sex educationl course in Falls Village, Conn., boiled over into a discussion of the role of state police in determining what may and what may not be taught in public schools.

The disputed subject is a section of the biology course taught in the regional high school. At a recent meeting the five-member school board voted three to two to continue it, while at the same time conducting further investigation among experts, on its value. The board proposed to hold a public meeting when the opinions of experts had been obtained.

Principal objection to the course is that it is too advanced for boys and girl of high school age and that it delegates to the school instruction that should be the responsibility of the church and parents.

The issue had first come to light last July and at that time a report was circulated that the state police were questioning faculty members and area residents concerning the course. The then superintendent, Dr. Ina Sartorius, was supposed to have requested the investigation because of complaints she had heard concerning the course.

The reported police investigation was protested by State Commissioner of Education William Sander (who, incidentally, has criticized the sex course as "too rich" for the blood of high school students). Dr. Sander told the police department that the investigation exceeded that agency's authority.

Police officials denied that they were investigating the biology course, stating instead that they were interested in complaints about a psychology course taught at the high school. Later they admitted their probe concerned the biology lessons.

After receiving the complaint from the education commissioner, police officials apparently agreed to end their investigation, but recent reports have indicated that the inquiry is still underway.

Married students fight for equality

Two married students in Messick, Mich., have gone into court in an effort to win the right to participate in all school activities. The boys have already won the right to remain in school until they graduate, but the school board has ruled out any activities—such as band, chorus and physical education—not absolutely necessary for graduation. One of the boys involved had been elected vice president of the varsity club and the other was supposed to assume a similar position in the school chapter of Future Farmers of America. Neither has been allowed to take office or participate in club activities.

In upholding the board's position, Superintendent Raymond E. Kahler said the board adopted its policy for the "protection of all the 400 students." It felt, he explained, that students who attain prominence in various activities are objects of "hero worship."

The board apparently feels that marriage is a bad example to set.

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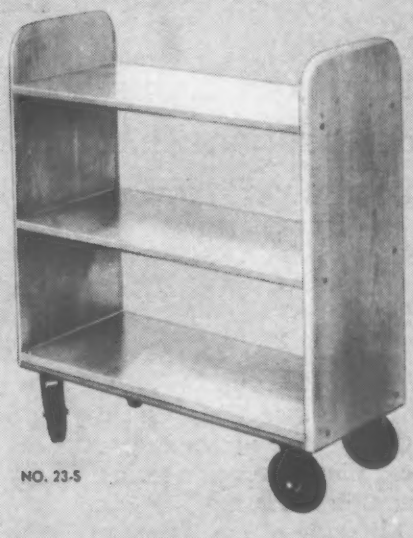

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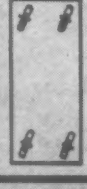

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THE FINAL CONANT REPORT

What is a good high school? Here is an approved summary of the 22 basic recommendations that make up Dr. James Conant's long-awaited, monumental answer. How do your schools measure up?

By GLORIA DAPPER
Director Communications Division
National Citizens Council for Better Schools

■ ■ ■ Ten days after James Bryant Conant arrived home from a four-year stint as top man for our government in Germany, he was deep in his study of the American high school.

Publication of his findings on January 28,* coinciding with delivery of those findings to the San Francisco convention of the National School Boards Association, marks the end of phase three of that history-making study.

Financed by a grant from the Carnegie Corporation, administered by the Educational Testing Service of Princeton, N. J., Dr. Conant (or Mr. Conant, as he prefers to be called) took on the job for a wide variety of reasons.

Probably the most pressing was his recent experience as High Commissioner and then Ambassador to the Federal Republic of Germany, during the course of which he spent almost as much time trying to explain American education to Europeans as he spent trying to decipher what the Russians were up to in Berlin.

He was also concerned about the new wave of criticism of American education, including what appeared to be a growing conviction that Russian or European education was better and more effective. Mr. Conant refuses to enter into that fight head-on because the scientist in him (he's one of the nation's great chemists and served in that capacity in both World Wars) refuses to compare two objects that have so little in common. It was undoubtedly the scientist who decided on the course of fact-finding, even though he said from the outset, only half-jokingly, that he was studying the American high school in order to "crystallize my prejudices."

Still another reason—if a full-blown study of American high school education has to be justified—stemmed from his experience as president of Harvard University. During that time, he became increasingly aware of the importance of secondary public education. In fact, it was under his reign at Cambridge that Harvard faced some of the facts of life, such as the truth that more and more of its top students came from public schools and another truth that a private university has an obligation to the secondary school system of this country.

There were two main prejudices that Mr. Conant held two years ago this month when he started his study.

One, he was convinced that the

**The American High School Today —A First Report to Interested Citizens, McGraw-Hill Book Co., 330 W. 42nd St., New York City. $1.*

quality of public secondary education could be vastly improved within the existing framework of American education.

Two, he believed that our unique comprehensive high school, which sets out to educate all the children of a community, was the mechanism on which we should concentrate for improvement.

There were other convictions, such as a firm belief that small high schools are not capable of offering a first-rate (one of his favorite phrases) education to students of widely varying ability and differing vocational aims. But those, he felt, would come to light in the study.

With a remarkably small staff, the 64-year-old scientist-statesman-educator started a three-pronged campaign that was to lead him on a 20-state tour strenuous enough to dull the enthusiasm of a lesser trouper.

First stage was study—"to crystallize my prejudices."

Second stage was a speaking tour —"to get others to share my prejudices."

Third stage was distribution of the findings to school board members, school superintendents and laymen so that they could act in unison.

Two years and $375,000 later, the die is cast and as far as Mr. Conant is concerned, the rest is up to the public. This attitude is not cavalier; rather, it's based on a lifetime notion that, given the facts, the people will act in the right way.

His report is dogmatic. He admits it. Although he also admits the impossibility of generalizing about anything as diversified as American secondary education, he says that some facts are self-evident. On the basis of those, he makes his 22 very specific recommendations for improving the quality of American high school education.

Don't look for the beautiful, polished prose that appeared in Mr. Conant's earlier, philosophical books. Instead, look for a shirt-sleeves method of improving education in your community within the existing pattern.

Only in America

Although the findings are directed to the board members and administrators who can get the job done, Mr. Conant is sure the citizen is reading over the shoulders of the authorities. So he starts his report with a brief, concise, informative essay on the unique characteristics of American education. He shows how it was and is shaped by our history and by our communities. Europeans told him it sounded like chaos but his unjaundiced claim for the right of local control and education serving community needs is based on the facts that it works and it serves the nation well.

The comprehensive high school

If there are degrees of uniqueness, then the comprehensive high school, to Mr. Conant's mind, is our most unique contribution to the history of education. It's in the chapter on that feature that he outlines the focus for his study.

"I early decided in the course of arranging for this study that I would concentrate my attention primarily on high schools with a high degree of comprehensiveness. In these schools, more than one-half the students terminate their full-time education on graduation. . . . Programs are also offered for those who have high academic ability."

"The number of small high schools must be drastically reduced"

CONANT

He defines the comprehensive high school in terms of its three main objectives:

"1. To provide a general education for all future citizens;

2. To provide good elective programs for those who wish to use their acquired skills immediately on graduation;

3. To provide satisfactory programs for those whose vocations will depend on their subsequent education in a college or university."

The big question to be answered was this: Whether, under one roof, it is possible for a school to fulfill those three functions satisfactorily. If the answer was yes, then no radical change in the basic pattern of American education would seem to be required.

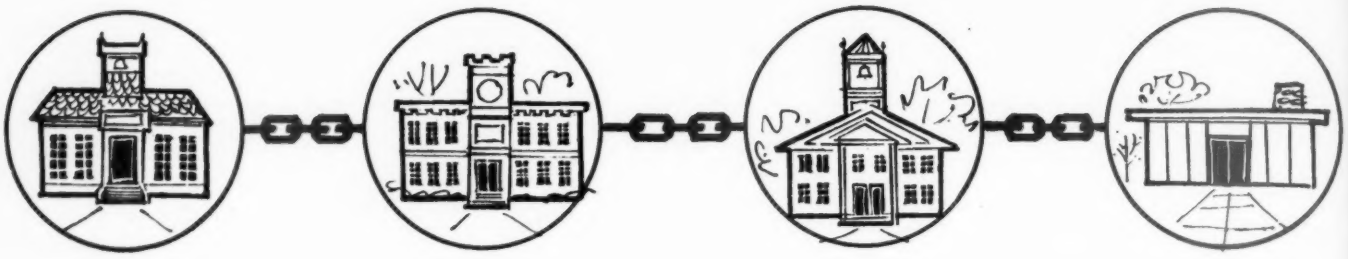
Mr. Conant's answer is yes.

In more detail, it's "yes, if—"

Here it is in his words:

"I can sum up my conclusion in a few sentences. The number of small high schools must be drastically reduced through district reorganization. Aside from this important change, 'I believe . . . no radical alteration in American education is necessary in order to improve our public high schools.' If all the high schools were functioning as well as some I have visited, the education of all American youth would be satisfactory, except for the study of foreign languages and the guidance of the

Parental ambitions cause the most trouble



Small high schools must be consolidated through district reorganization

more able girls. Most of the schools which I found unsatisfactory in one or more respects could become satisfactory by relatively minor changes, though I have no doubt that there are schools even of sufficient size where major improvements in organization and instruction would be in order. If the 55 schools I have visited, all of which have a good reputation, are at all representative of American public high schools, I think one general criticism would be in order: the academically talented student, as a rule, is not being sufficiently challenged, does not work hard enough, and his or her program of academic subjects is not of sufficient range. The able boys too often specialize in mathematics and science to the exclusion of foreign languages and to the neglect of English and the social studies. The able girls, on the other hand, too often avoid mathematics and science as well as the foreign languages . . . a correction of this situation in many instances will depend upon an altered attitude of the community quite as much as upon action by a school board or the school administration."

There it is, in general terms and in plain language. The language gets even plainer as he gets down to cases with 22 recommendations.

Recommendation 1:

The Counseling System

The counseling system should begin in the elementary school and there should be continuity between that and the higher schools—whether they're junior high, senior high, or whatever organization prevails.

In the high school, there should be one full-time counselor for every 250 or 300 pupils. These counselors should have teaching experience but they should also have training in guidance and they should devote themselves full-time to counseling.

Since parental ambitions often cause more trouble than pupil motivation, the counselors should work closely with the parents as well as the students.

The counselor should not only be on the lookout for the bright student, to spot him and guide him, but he should be sympathetic to the vocational program and not use that as a dumping ground for the slow readers.

Recommendation 2:

Individualized Programs

No tracks for Mr. Conant. Instead, each student should have an individualized elective program over and above the minimum general educational program required of all. Although it will turn out that many students of similar ability and vocational interests will take the same program, there should be no labeling, such as "vocational," "commercial" or "college preparatory" and there must be flexibility so that students can shift from one emphasis to another.

Main reason for no labels seems to be Mr. Conant's fear that prestige will attach to a clearly labeled academic program and then parents will press to get their children into that track, whether the kids have the ability or not. Conversely, a stigma will be attached to other tracks, such as vocational.

Recommendation 3:

The Required Programs For All

It's here that Mr. Conant minces no words and, because of his definiteness, may be in for more fights on this point than on any other.

He says that the requirements for graduation for *all* students should be as follows:

- Four years of English.
- Three or four years of social studies including two years of history (one of which should be American history) and a senior course in American problems or American government.
- One year of mathematics in the ninth grade (algebra or general mathematics).
- At least one year of science in the ninth or 10th grade which might be biology or general physical science.

This academic program of nine or 10 courses with homework, to be taken in four years, will occupy more than half the time of most students, whatever may be the elective program.

On electives, he says there should be at least seven more courses in addition to physical education, with all urged to include art and music. The main thing to keep in mind with electives is that they be taken as a significant sequence leading either to the development of a marketable skill or to an academic future.

Included in this recommendation is Mr. Conant's feeling on passing or failing students. He recommends two policy decisions:

1. In elective courses, students who do not meet the level of performance necessary for mastery of the subject should be failed.

2. In required courses, students should be given a passing grade if they work to full capacity, whether or not they reach a certain level of achievement.

Recommendation 4:

Ability Grouping

Students should be grouped according to ability *by subject.*

There should be three types of classes: one for the able in the subject, one for the average, and another for very slow readers. But no across-the-board grouping.

A child might be in the top section in English but the middle section in history or ninth-grade algebra.

Of course, in those subjects chosen by a small fraction of the student body, such as advanced mathematics and 12th-grade physics, ability grouping is going to be almost automatic if standards are kept high. The trouble will come in the lower grades, such as in ninth-grade algebra or biology. Here, courses should probably cover different material and carry different labels. For the slow learners, biology may be taught as "life science" and the material tailored to the ability of the class. Just don't try to pass it off as straight biology.

Similarly, those without the mathematical ability to handle physics might be offered "practical physics." Unless something like this is done, says Mr. Conant, the course in physics would have to be watered down.

Recommendation 5:

A Supplement to a High School Diploma

No more attendance certificates called diplomas for Mr. Conant. The diploma will mean completion of the required program for all, plus achievement of a specified level of knowledge in the elective subjects. Besides that, each student should be given a durable record of the courses studied and the grades obtained. Possibly this should be put on a card that will fit the wallet and employers should know of its existence and ask to see it.

Recommendation 6:

English Composition

"The time devoted to English composition during the four years should occupy about half the total time devoted to the study of English. Each student should be required to write an average of one theme a week. Themes should be corrected by the teacher." To guarantee adequate time for handling these themes, "no English teacher should be responsible for more than 100 pupils."

Nothing could be more definite than that—and there's more.

"To test the ability of each student in English composition, a school-wide composition test should be given in every grade; in the ninth and 11th grades, these composition tests should be graded not only by the teacher but by a committee of the entire school. Those students who do not obtain a grade on the 11th-grade test on composition which is commensurate with their ability as measured by an aptitude test should be required to take a special course in English composition in the 12th grade."

Recommendation 7:

Diversified Programs for the Development of Marketable Skills

The layman may get lost here without learning more about the Smith-Hughes Act and the George-Barden Act. But, without going into the distinctions between vocational programs as financed by Federal money with state-matching funds, and industrial arts programs, the main recommendations are these:

All of these students in the vocational programs should take the required general program, such as regular English, social studies, and other courses required for graduation.

These students should not be isolated from the others. Homerooms may be an effective means to this end. (More on homerooms in Recommendation 20.)

These courses, more than any others, should reflect the needs of the community and should be geared to both community desires and employment possibilities. Labor and management should be in on their planning.

Broadly speaking, there will be this variety, depending on the type of community:

- Clerical programs for girls, including typing, stenography and the use of clerical machines.
- Home economics programs for girls which, through further work in college, could lead to the profession of dietician.
- Vocational agriculture if the community is rural.
- Distributive education, involving work experience in retail shops, if the merchants are willing to work closely with the schools.
- Trades and industrial programs, involving half a day in the 11th and 12th grades. For each trade, there should be an advisory committee of management and labor people. When employment opportunities in a field are closed in that community, the course in that trade should be dropped. By the same token, when new opportunities open up, new vocational programs should be adopted. Those are decisions for the school management to make on the counsel of the advisory committees.
- Industrial arts programs, which are really a survey of the different skilled trades involving the use of tools and the working of materials as diverse as leather, wood and metal, can be offered either alone or in the same school that's offering strong vocational programs. When the latter situation prevails, according to Mr. Conant, both benefit, and the attitude in the industrial arts program is much more professional.

Recommendation 8:

Special Consideration for the Very Slow Readers

In every school visited by the study staff (and, remember, they

Labels must be avoided

visited only those they were told were "good"), a certain fraction of the entire 10th grade were boys and girls who read at grades several levels beneath their classmates. In fact, there might be as many as 10 or 15% reading at fourth, fifth or sixth-grade levels. Putting a few of those students in each of the regular classes in English and the social studies, and hoping all would be well, proved a hopeless undertaking, according to Mr. Conant and the teachers with whom he talked.

What they need instead are special teachers, using remedial reading techniques and special textbooks. Although these students are not to be confused with the mentally retarded, they need special provision.

Commenting on the enormity and difficulty of this problem, Mr. Conant refuses to blame the elementary school.

As he puts it, "The whole problem of the instruction in the first eight grades and the relation of the inadequacies in this area to the problems of the high school is a subject on which I have no basis to report in so far as the schools I visited are concerned."

He does say that the development of reading skill "must be a continuous process throughout the school years."

In other words, the reader can draw his own conclusions from the facts presented.

Recommendation 9:

The Programs of the Academically Talented

First of all, a definition: the academically talented are operationally defined as those who can study effectively and rewardingly both foreign languages and mathematics. Nationally, they will include the top 15%. They're not the gifted, who compose some 3% of the pupil population, nationally. But they're well above average.

First step in dealing with the academically talented is for the school to adopt a policy that will serve as a guide to the counselors.

A minimum program for academically talented students is this:

"Four years of mathematics, four years of one foreign language, three years of science, in addition to the required four years of English and three years of social studies; a total of 18 courses with homework to be taken in the four years. This program will require at least 15 hours of homework each week."

This is a minimum, and these students, thinks Mr. Conant, could easily handle 20 or more courses. And, if the school would organize on a seven or eight-period day (*see Recommendation 12*), at least one more course without homework could also be scheduled each year.

Once you have such a policy on the education of the academically talented, you have two immediate problems. The first, and toughest, is to identify these students early. The second is to develop a program for the next lower 10 or 20% who could take a very similar but less rigorous one.

Lest anyone call his minimum program a "track," Mr. Conant hastens to point out that nothing should prevent counselors from advising exceptional programs in exceptional cases; for example, a student with unusual musical aptitude, might substitute musical theory and composition for 12th-grade mathematics and 12th-grade science.

In general, however, Mr. Conant feels that these academically talented students should add to their minimum program rather than make substitutions. He has been in schools in which none of these students are taking as many as 20 and 21 courses with homework in four years.

It's obvious that Mr. Conant's heart is in this area. He makes a strong plea for the academically talented, pointing out that these students have potentialities shared with only a relatively few contemporaries. If these potentialities are not brought out in high school, many of these bright students either will never have another chance or doors will be closed to them in the future. For example, without mathematics and science in high school, it will be almost impossible for them to take a pre-medical or engineering course in college. If mastery of a foreign language is not attained in high school, it may never be attained.

Furthermore, there's the question of the loss to the nation. "It is in the national interest," says Mr. Conant, "to have them develop their capacities to the full and to start this development as early as possible."

Recommendation 10:

Highly Gifted Pupils

If there are too few of these highly gifted students (there are only 3% nationally) to warrant special classes, a guidance officer should take them over almost in a tutorial capacity. They ought to be identified in the seventh grade or even earlier.

If there are enough for a special class, they should take courses that are part of the Advanced Placement Program. This is the idea, sponsored by the College Entrance Examination Board, which allows a 12th-grade student to take college courses and, after suitable examinations, to obtain college credit. A side benefit, says Mr. Conant, is that such a program raises the whole tone of the academic program.

Recommendation 11:

The Academic Inventory

The school board should ask the superintendent to provide an annual academic inventory which would examine the programs elected by the academically talented students during their four years.

Examination of the summary of the inventory will show to what extent the academically talented pupils have studied the subjects they should have studied, and will roughly measure the efficacy of the counseling system. This inventory of the graduating class might well be published each year.

(The Appendix of Mr. Conant's book gives details on how to prepare an academic inventory. Further help is available from the Educational Testing Service, Princeton, N. J.)

continued on page 80

HOW TO DETERMINE THE CAPACITY OF THE SECONDARY SCHOOL

How many students can your secondary school building really hold? 350? 400? 500? Do you know how to find out? Here's a proven technique. Apply it to your school and you may be in for a surprise.

Editor's note: For the past 10 years the classroom squeeze has been growing tighter and tighter—and experts predict that the next decade will be worse. With school population continuing to increase at a faster pace than borrowing power in most districts, an already serious problem threatens to become critical. Can we do anything right now to ease the situation? The answer is "yes." We must be sure we are making the best and most effective use of the school space we already have, and we must plan future schools that are flexible and adequate for our expanding needs.

The key to this approach is to figure out—exactly—how many pupils an existing school building—or a new one being planned—can accommodate under the specific curriculum offered to the students. This won't provide dollars—but it will minimize the dollars needed.

In this article we present a tested method for computing the true practical capacity of a secondary school building. The formula was developed in 1952 by Dr. M. J. Conrad, now head of the School Plant Division of the Bureau of Educational Research and Service at Ohio State University. Here is what this formula can do:

1. Permit you to compute the true capacity of an existing school building in terms of the specific curriculum that is taught.

2. Pinpoint present space inadequacies and indicate in what curriculum areas additional space must be made available.

3. Show you where—in what subject areas—excess space, if any, exists.

4. Predetermine what effect a specific curriculum change will have upon operating capacity.

5. Finally, makes it possible for you to assess the adequacy and flexibility of a proposed *new* school building while it is still in the blueprint stage.

A more detailed and comprehensive presentation of the capacity formula is available in Dr. Conrad's "Manual for Determining the Operating Capacity of Secondary School Buildings," published by the Bureau of Educational Research and Service of Ohio State University. (price: $1.)

There are two important features of this formula that should be remembered. First, it deals mathematically with a given set of facts and is, therefore, more nearly objective than most efforts to determine capacity. Second, while the collection and preparation of the necessary information is a time-consuming and tedious job, it requires no special training. The task would, as a matter of fact, be an excellent assignment for a citizens' committee working in conjunction with the principal or curriculum director.

THE CAPACITY FORMULA

The capacity formula below is based on one fundamental assumption: true secondary school building capacity is affected by curriculum as well as by the physical dimensions of the structure itself.

Here's the formula—a simple mathematical proposition—with an explanation of what it means.

$$BC = \frac{TS \times DS \times T \times E}{PP}$$

BC stands for building capacity—the number of pupils that can be handled under a specific curriculum.

TS is the total number of teaching stations in a given subject area. (A teaching station is defined as a room or area in which one teacher can handle a given number of pupils in a specific activity.)

DS is the desirable average class size for the particular subject area.

T is the total number of effective periods of instruction per week in the schedule of classes.

E is the average school enrollment for a given period.

PP is the average total number of pupil periods of instruction per week in the given subject area for the same period of time.

Obviously a great deal of information must be gathered before the formula can be applied. To simplify the organization of this material five form sheets have been developed. They are:

Form 1	**Total enrollment data**
Form 2	**Subject enrollment data**
Form 3	**Basic data on instructional rooms**
Form 4	**Capacity calculation**
Form 5	**Auxiliary facilities**

To illustrate how these forms are used, and how the formula is applied, here are highlights from an actual capacity study. This example includes information on the educational program and the physical plant of a secondary school in a small-city school district in northern Ohio.

Case History of a Capacity Study

Form 1: total enrollment data

Form 1 is a listing, by grades, of the enrollment figures for the past five years, the total of each of those years, the average enrollment for each grade and the average total enrollment.

Form 2: Subject enrollment data

On this sheet are recorded detailed subject enrollments for the same five-year period for which total enrollments were listed in Form 1. Subjects have been arranged according to areas which require specialized facilities. Since some classrooms were used interchangeably for such subjects as mathematics, social studies, and language arts, these were considered "academic," rather than special-use rooms.

Science, chemistry, and physics have been treated first independently, and then added to the other data for the science subject area. This step was necessary because facilities which may be used for general science or biology classes are inadequate for the extensive laboratory work required of chemistry and physics students. Through this method the capacity limit of the more specialized facilities may be determined separately, after which the capacity limit of the combined science facilities may be determined. (These limits appear in Column 8 of Form 4. Note that while facilities for extensive laboratory work are

ample, science facilities as a whole actually limit the total operating capacity of the building.)

Form 2 shows, in addition to the number of pupils enrolled in a subject, the grade in which it is taught and the number of instruction periods per week. The last four columns show how these figures are converted into "adjusted pupil periods of instruction per week."

Column 6 shows an adjustment where the ratio of subject enrollment to total enrollment is clearly not a constant.

For example, the average enrollment in driver education has been adjusted upward since school authorities believe that this represents the most probable number, out of 602 pupils, that would be enrolled in this subject area at any one time. Since speech is no longer offered in either the seventh or eighth grades, this average has been adjusted to zero. On the other hand speech enrollment in grades ninth through 12 has been adjusted to 22, the average for the last four years, since it was clear that the 1947-48 enrollment was inconsistent with the general pattern.

Column 7 shows the actual (or adjusted) pupil periods of instruction per week for each subject. The science area contains the only major adjustment. Chemistry and physics require 7 hours of instruction per week. Since 7 will not divide evenly into 40 (the total number of possible periods per week), not every available pupil period can be utilized. The figure 8 rather than 7 corrects for the loss of five periods due to scheduling.

The final steps involve multiplying the figures in Column 6 (adjusted average subject enrollment) by the figures in Column 7 (adjusted periods of instruction per week) to arrive at the adjusted pupil periods of instruction in each subject. Those figures are entered in Column 8.

The last computation on Form 2 is adding the adjusted pupil periods of instruction of the separate subjects *in each subject area*. These totals are entered under Column 9 on Form 2.

School District (1) X Building (2) Y

Grade (3)	Enrollments for Past Five Years (4)					Average (5)
	1947–48	1948–49	1949–50	1950–51	1951–52	
7	98	113	85	115	108	104
8	82	103	93	78	117	95
9	88	79	96	98	81	88
10	112	116	113	114	156	122
11	105	91	95	91	99	96
12	107	94	97	94	91	97
Total	592	596	579	590	652	602

Form 1: Total enrollment

Form 3: instructional rooms data

Form 3 lists the number, location and dimensions of each instructional room in the school building. In addi-

continued on page 90

Form 2: Subject enrollment

Subject Area (e.g. science) (1)	Subjects (e.g. chemistry) (2)	Grade Placement (3)	Periods per Week of Subject (4)	Subject Enrollments for Past Five Years (5)						Adjusted Average Subject Enrollments (6)	Adjusted Periods per Week of Subject (7)	Adjusted Pupil Periods per Week (8)	Total Adjusted Pupil Periods per Week by Subject Area (9)
				1947–48	1948–49	1949–50	1950–51	1951–52	Average				
Academic.....	English	7–12	5	588	576	564	605	639	594	594	5	2,970	
	Speech	7–8	5	13	0	0	0	0	3	0	5	0	
	Speech	9–12	5	8	19	15	21	34	19	22	5	110	
	Driver Education	9–12	5	0	0	6	8	14	5	14	5	70	
	Mathematics	7–8	5	193	208	182	204	228	203	203	5	1,015	
				97	102	90	107	106	100	100	2	200	
	Sr. High Boys	9–12	2	97	102	90	107	99	99	99	2	198	788
Science— Extensive Lab.....	Chemistry	11	7	48	44	35	37	25	38	38	8	304	
	Physics	12	7	21	12	14	20	13	16	16	8	128	432
Other.....	Science	7	5	113	119	92	119	118	112	112	5	560	
	Science	8	5	80	99	98	76	108	92	92	5	460	
	Senior Science	12	5	32	0	0	0	0	6	0	5	0	
	Biology	10	5	84	67	76	59	43	66	66	5	330	
	General Science	9	5	66	47	67	61	58	60	60	5	300	1,650

The "new look" in summer schools

All over the country, summer sessions are being added to provide for the needs of both the academically talented and those who need remedial help. Here's the program in Newton, Mass., with details of costs, how it's handled, and whom it helps.

■ ■ ■ There's nothing new about the idea of summer school. For years almost every large city provided some sort of a "make-up" program during July and August for children who had failed courses during the previous year.

Today, in both large and small districts, the emphasis has changed. The "new look" is a summer session populated, for the most part, by average or talented students who are seeking the chance to take subjects they might not be able to schedule in the crowded curriculum of the typical high school year.

The new trend is often labeled "enrichment"—an unfortunate word since it implies something "extra but not essential." Actually, *this* use of the summer months is but another symptom of an underlying effort to curb the extravagant waste of precious time and facilities that has sometimes characterized American education. Few children need or really want 10 weeks of undirected idleness. Our schools, themselves, should be better utilized. And our teachers, for the most part, welcome the opportunity to work year-round in the profession of their choice.

In Newton, Mass., a longer school-year is being approached gradually —in fact, if not by intention. The vehicle is Newton's burgeoning summer high school, a six-week program which last year enrolled 1,200 students, 564 from Newton High School, the rest from other schools in Newton and near-by communities. With a regular enrollment of 3,000 students, Newton High thus has 19% of its students on an 11-month school-year.

To achieve this, Newton solved two problems that may be perplexing *your* summer school. First, it offers courses that appeal not only to make-up students, but to its whole spectrum of students, including those with the highest academic ratings. Second, its entire summer school program has been made financially self-supporting.

The results are evident in the statistics. Summer school enrollment, for example, has nearly doubled in the last two years. In 1958 a staff of 43 teachers and 25 interns (*see below*) taught 66 classes in 25 subjects. Operating income topped $28,000, with a profit (applied to other school operations) of over $5,000.

To get behind these statistics, SCHOOL MANAGEMENT interviewed Raymond Rogers, Jr., an assistant principal of Newton High School and director of the city's 1958 summer school.

Q *Mr. Rogers, what brings 1,200 students back to school for six weeks in the summer? What are they looking for? What are you offering them?*

ROGERS: There's been a tremendous shift here in the last few years. When the summer school opened back in 1941, its job was to salvage students who'd failed courses.

Those days, nearly everyone who

"Unstable boys get into trouble when they're not busy. They don't have idle time in summer school."

"We urge parents not to pressure their children into summer school . . . the pace is too fast."

registered was making up a failure. Last year that figure was down to 25%.

Let me put it this way: of every four students in the summer school last year, one was making up a failure and two were trying to upgrade the passing marks they got during the regular session—not just upgrade, but get a better foundation for the next year's work. The fourth student was taking a course for the first time, either to learn a skill or just for his own enrichment.

Q *Then you offer both review courses and courses which are new material?*

ROGERS: Right. Last year, for review and make-up, we offered 23 courses in five subject-areas—English, languages, math, science and social sciences. Then there were 12 credit courses: credit only for students taking them for the first time. And we had five new courses, also for credit, under what we call the Harvard-Newton program *(See box for course listings.)*

These credit courses have really built up the school. In 1956, when our only credit courses were typing and driver education, our enrollment was just over 600. In 1957 we brought in four academic credit courses and enrollment jumped to 840. Last year we had 12 of our own credit courses plus five from Harvard-Newton, and the enrollment was 1,200.

Q About the remedials, do you tell them to come to summer school?

ROGERS: No. We don't tell anyone to come; it's their own choice. Sometimes a guidance counselor will point out the possibility, but the decision is strictly up to the students. In fact, we charge tuition; if we required students to come, it would have to be free.

Summer school isn't right for every student, even if he seems to need it academically. Some of them have trouble adjusting to school; what they really need in the summer is a change of occupation. We even urge parents not to pressure their children into summer school, because the pace is fast and a student here against his will just won't succeed.

Q About the pace, how fast is it?

ROGERS: Most of our courses meet for two hours, five mornings a week. They're reviewing the fundamentals of a full-year course, so they don't waste much time. The homework runs about an hour a day, and many students take two courses: that's six hours work a day, every day.

We send a report on grades to parents at mid-session. At the end, we send a report both to the parents and to the student's school, if he's not from Newton. On the college records, Newton reports both the original grade and his make-up grade from summer school.

Q *What about discipline? Do you have much trouble?*

ROGERS: Not much. In fact, we find that some of our unstable boys respond better to summer school than to the regular session. There are reasons. The first is that students pay to come to the school. I'm very much in favor of that, especially for disciplinary students. It makes a terrific difference in their attitude toward their work.

At the first assembly, I remind them of the rules. I tell them we have to cover a lot of work in a short time, and that we don't have time for second chances and detention. Every student is expected to live up to the rules.

Basically, the teachers handle discipline. If a student is sent to the office just once, we notify his parents. If it happens again, he's dropped

"The summer school is self-supporting—last year we had a surplus of just over $5000."

from the school immediately.

Q How many did you drop last year?

ROGERS: Just three—out of 1,200. And in that 1,200 were a number of students—including 36 from Newton—who'd been in serious disciplinary trouble during the regular session.

We've found from the histories of unstable boys that most of their trouble comes when they're not kept busy—between classes, in the lunchroom, during homeroom periods and study halls. We don't have these times in summer school. Then again, they have just two teachers—only two personalities to adjust to. The pace is fast, and they get out at noon: they don't have time to get restless. Some of our real hellions find a source of work here, and nearly all of them gain confidence in the school situation.

One other point, probably the most important. Coming to summer school is their chance to make a decision—to do something they know their parents will like. It lets them be on the good side for a change. Maybe they don't really want to come, but they *do* come, because it's a chance to make their parents happy.

Q You said before that most of your courses run two hours a day. How do you schedule?

ROGERS: The periods run from 8 a.m. to 10 a.m. and from 10 a.m. to noon. A few courses run four hours a day, straight through from 8-12, with almost unlimited homework. Those are courses of our own creation, in American history, and the five Harvard-Newton courses for our top students. They offer two full semesters work—and a full year's credit—in just the six weeks.

Q Are these courses part of the summer school?

ROGERS: Administratively they're integrated into our operation. Harvard sets them up and hires the teachers, but as far as the student is concerned, they're part of our regular operation.

Q You've mentioned the Harvard-Newton program several times. Exactly what is it?

ROGERS: The Harvard-Newton summer program is a teacher-training venture run jointly by the Newton Public Schools and Harvard University's Graduate School of Education. It gives undergraduates and recent graduates of liberal arts colleges a head-start on their training for elementary and secondary school teaching.

These college students ("interns") work in classrooms each morning during a six-week summer session, observing expert teachers and usually teaching some classes themselves. In the afternoon they take formal courses in education.

Under the program, classes are set up on every grade level, so long as a sufficient number of students volunteer. There is a slight tuition charge and no credit is given for the courses, but students benefit from specialized instruction by expert teachers—and by interns under their direction—in both regular and unusual subject-areas.

Before 1958, the program had made only tentative incursions into the senior high school level. In that year, for the first time, courses were offered for full credit in five subject-areas. (Two English preview courses were offered without credit.) By attending classes every morning from 8-12 and concentrating on intensive homework assignments, the students covered an entire school-year's work in their course in six weeks.

Enrollment was limited to able students, and Newton's highest college-preparatory standards were maintained. Each course carried five credits (one unit).

Q Isn't this a rugged load for summer work?

ROGERS: These courses were frankly experimental. I don't know of any other school trying it. The students become totally immersed in one subject with no distractions. They "live" the course for six weeks.

These courses may open the way to some of our most talented students picking up enough credit to start college a year earlier. In other cases, a good showing in the Harvard-Newton courses might qualify a student for an Advanced Placement class in that subject-area during the regular session.

Q Judging from this one year, would you say these courses are a success?

ROGERS: Yes. The students got top instruction, and it's amazing the amount of work these kids will do. Far more than an average student during the regular session. And comprehension was high: more than 80% of these students scored in the 99th percentile on a national standard.

From now on, whether Harvard is in on this or not, we'll offer these courses anyway. We might have had trouble selling them to the community without Harvards backing, but now the precedent is set.

Q Let's get into finances for a minute. What income do you get? What expenses do you have?

ROGERS: The income is nearly all from tuitions, with a few odd ac-

counts, such as receipts for lost books. The charges run $16 for a two-hour course, $38 for a four-hour course. We charge a little more for lab courses. Students from outside Newton pay $2 or $3 more a course, except on the Harvard-Newton program. We give a limited refund to students who cancel before a certain date.

As for expenses, the biggest is teachers' salaries. We pay them $100 a week for the six weeks: that covers four hours teaching in the morning, and correction and preparation at night.

Q Do you use Newton teachers exclusively?

ROGERS: We want the best teachers we can get. We feel we have good ones here, and we do give them preference, but we also go outside. And this is important: we don't commit ourselves until the class materializes. We hire the teachers between January and March, but our letters say, in effect, you're hired providing the class materializes.

Q How large are your classes?

ROGERS: We try to keep them around 25, never over 30. We don't set up a class for less than 19 students, but that's not usually a problem. Last year we expected about 900 students in all and almost that many showed up the first day of registration alone. We had to give them numbers and make them wait their turns outside. And I had to look fast for additional teachers.

Q Teachers' salaries are your biggest expense. What about supplies, administrative costs, lights, extra janitorial services?

ROGERS: We're completely self-supporting in all these ways. The only thing we don't pay is a share of the building rent. The community donates that, but in a way it gets its money back from the fewer repeats —the more economical operation during the regular session.

Q The summer school is completely self-supporting?

ROGERS: We had a surplus of just over $5,000 last year. The money isn't held for the summer school,

continued on page 100

COURSES OFFERED AT NEWTON HIGH SCHOOL

SUMMER SCHOOL — 1958

Twenty-three courses for review and make-up. (Two hours a day. No credit except to improve grades.)

Arithmetic—fundamentals
—grade 8
—grade 9
Mathematics (college-prep)
—grade 10
—grade 11
Algebra—elementary
—intermediate
Plane Geometry
Shorthand
Chemistry
Biology
English—grade 8
—grade 9
—grade 10
—grade 11
—grade 12
French—1st year
—2nd year
—3rd year
Latin—1st year
—2nd year
Spanish—1st year
American history

Twelve courses for credit through regular summer school. (Two hours a day, except as indicated. Credits shown in parentheses.)

Developing word power	(2)	Study of nations	(2)
Improving reading	(2)	Theory of music	(2)
Biology	(2)	Music appreciation	(1)
Typing	(1)	Trigonometry	(2)
Driver education	(1)	Geography	(2)
Shorthand	(0)	American history *	(5)

** meets four hours a day*

Five courses for credit through Harvard-Newton Summer Program. (Four hours a day. Enrollment limited to able students. Five credits; one college unit.)

World history
American history
Mathematics (college-prep)—Grade 10
Biology
Chemistry

One preview course through Harvard-Newton Summer Program. (Two hours a day. No credit.)

Preview of English—Grade 10

NOTE: Credits shown above are those allowed by the Newton Public Schools. They vary somewhat for other systems.

Do you need a kitchen in every school?

A quiet revolution in food service methods has been provided by the central kitchen concept. Here are pertinent facts you can use to study its potential in your district.

By RICHARD FLAMBERT

About the author. *Richard Flambert is a partner in the firm of Flambert and Flambert, San Francisco and St. Louis, the nation's largest organization of food service consultants specializing in schools and institutions. Among the firm's clients are the school districts of Los Angeles; Portland, Ore.; Phoenix and Tucson, Ariz.; Newark, Ohio; West Hartford, Conn.; Charlotte, N. C.; Kirksville and Webster Groves in Mo., and Levittown, N. J.*

■ ■ ■ How much does a school kitchen cost? Let's consider an average situation.

The average size of an *elementary* school kitchen, including storeroom, refrigeration, dish room and service counter, is 1,500 square feet. The cost of constructing this food service part of a building averages $18 a square foot, and includes everything but equipment. The cost of equipment, plus incidentals such as utensils, trays, etc., is approximately $15,000.

It therefore requires a capital investment of $42,000 to build and equip a kitchen and service area *which will function for not more than two hours a day for an average of 175 days a year.* (This, of course, is in addition to the dining room or multi-purpose room, which may cost from $10 to $15 a square foot).

In the average *high school,* the food service area is even larger—about 3,500 square feet. The average cost of building is $20 a square foot including everything but equipment. The equipment, including utensils, china, etc., averages around $30,000. This means that a secondary school cafeteria costs $100,000 to build, not counting the dining area.

In view of the fact that the total food service area is utilized for only part of the school day, and then by only a portion of the students, many school boards and superintendents understandably question the advisability of continuing this type of program, especially when subsidization by the district is frequently necessary.

Space problems

In addition to the enormous cost of building, there is also the problem of poorly designed kitchens and service areas. It is often impossible for a large group of children to be served quickly. In addition to these problems another one arises—that of the success or failure of a cafeteria possibly depending upon the ability of an individual cook.

In many school districts separate faculty serving lines have been installed, plus faculty dining rooms, frequently resulting in higher labor costs and higher food costs.

A central kitchen handling 10,000 meals a day

The school lunch program for some years has been dependent to some extent upon the availability of surplus commodities and Federal and state subsidies. With rising food and payroll costs many school districts have fought a losing battle to keep the cafeteria program in the black.

Central kitchens

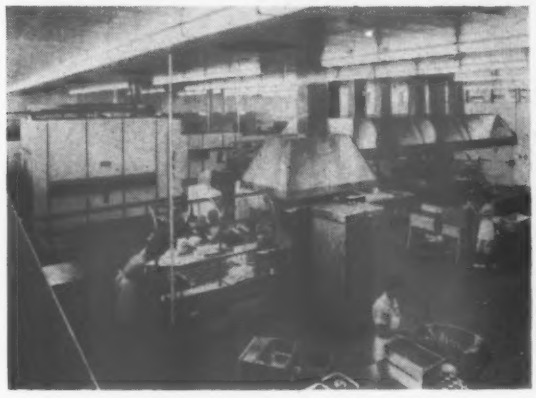
Throughout the years constructive ideas have been advanced for ameliorating these conditions. One idea which has proven to be extremely successful has been the use of central kitchens. A central kitchen is simply a kitchen set up in a school, or in a separate building, which prepares food for more than one school.

This program has taken many forms. In some districts students from several nearby schools come to the central one for their meals. More frequently, food prepared in a central kitchen is loaded into combination hot and cold food carts which are placed in a truck and transported to "receiving" schools. The carts are taken from the truck, wheeled into the serving areas of the receiving schools and a plate lunch is served directly from the carts.

In some cases, vacuum cans are used instead of carts. Pans of food are filled from the cans and transferred to a serving counter for dish-up and services. In other cases, food is delivered in serving pans and transferred directly to the serving counter. In still others only hot food is prepared in the central kitchen and sent to the receiving schools. The rest of the food is prepared in individual kitchens.

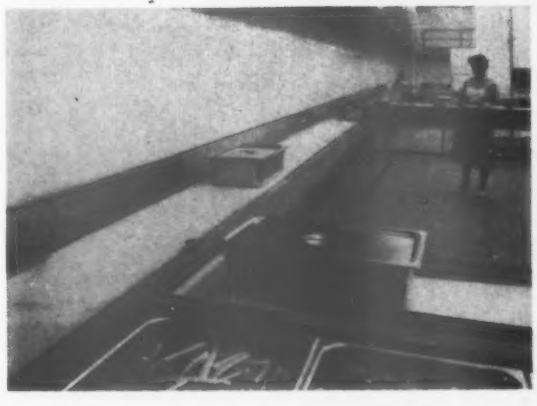
Whatever method is used, the important result should be a saving of space, equipment and manpower or the technique cannot be called successful. We have seen instances where central kitchens have cost more to build and maintain than individual kitchens because the plans were not conceived and executed properly, or because of lack of interest on the part of school officials and faculty.

The advantages of a central kitchen are numerous:



There are more than 12,000 square feet in this elaborate central kitchen designed to serve 32 schools.

Food pans move along a belt, are filled with food pumped from kettles.



Belts carry filled pans from four separate departments to the cart area. Notice balcony in rear for visitors.

Cart loading area looks like a massive parking lot for pans. Note overhead rails for heating carts.

Food service can be directly from carts or in cafeteria.

■ Better purchasing and accounting controls are possible.

■ Individual cafeteria managers are not required, and the cooking procedures are concentrated in one place.

■ Greater uniformity of finished product is achieved.

■ Quality control and portion control are more readily obtained.

■ Savings are achieved in labor cost due to the serving of more meals per man hour.

■ There are fewer left-overs and waste, resulting in lower food cost.

■ Organizing and training one staff for the central kitchen is easier than training several staffs for individual cafeterias.

■ One person is responsible for all phases of the operation.

■ Research in new dishes and technological advantages in equipment are more feasible.

■ Savings are effected in space and equipment when the central kitchen is properly planned.

What are the disadvantages? Among criticisms leveled against central kitchens are:

■ The cost of building a central kitchen is frequently more than the total sum of individual kitchens.

■ No provision is made for special food for the faculty.

■ There is no choice in food for different nationality groups. Everyone gets the same food.

■ The human touch is missing.

■ The food loses its attractiveness and nutrition because of transportation and multiple handling.

■ Receiving schools frequently over-order and the extra food is either thrown out or given as seconds.

■ Receiving schools' food service areas are not designed to receive carts, and remodeling is frequently necessary, at considerable cost.

With the exception of the second and third points, none of these criticisms is completely valid in a properly organized food service program. The cost of the central kitchen seldom exceeds the cost of several individual kitchens, even with in-expert planning. In those rare cases where it does, the savings affected through centralized operations still more than offset the additional cost of a central location.

It is true that the faculty gets less individual attention in the centralized set up. It should be remembered, however, that the school lunch program is for the children. Moreover, adults and children eat the same menu at home quite compatibly. Why not at school?

No one can deny that a central kitchen means a standardized menu for all locations. Realistically, however, under any circumstances it is difficult to allow a free choice with a 25¢ to 35¢ plate lunch, including milk, and still meet food and payroll costs. If a menu is properly planned, there should be sufficient variety to provide most children with food that will be acceptable and nutritious.

Loss of the "human touch" is frequently cited by people hostile to the central kitchen idea. This is a straw man. The children themselves are in contact with the food servers —not the preparers. If the human touch is missing, it has nothing to do with a central kitchen.

Many years ago it was true that the transportation of food affected its attractiveness. Today, with modern, specially designed carts and vacuum cans, that condition no longer exists.

So far as increased waste is concerned, in a well-organized central program a close count of meals to be served at each outlying location is given to the central kitchen. There is little waste. In fact, in most central kitchen programs, waste is *reduced.*

Finally, it is true that some receiving schools are not designed to receive food carts when delivered. This is less true of modern schools where a loading platform is found adjacent to the kitchen. When the situation does exist, however, an inexpensive ramp can generally be built to handle the carts when delivered.

Preparing for a central kitchen

Before a central kitchen is built a number of questions must be answered:

1. How many schools will there be? How many students, and what anticipated percentage of participation?
2. Where will it be located—in a separate building centrally located, in a new secondary school, or a remodeled existing building?
3. How large should it be—one for the entire district, or two or three smaller ones?
4. What type of menu is desired —Type A lunch, all plate lunches, a la carte, or a combination of these?
5. What will the selling price of the meal be?
6. What kind of container will be used for transporting the food—vacuum cans, pans with tight fitting lids, combination hot and cold food carts?
7. How will the food be served at the receiving schools?
8. How will the dishes, trays and utensils be sanitized?

Here is how these questions were answered in three districts with which our firm is working:

Case history: *Kirksville, Mo.*

The first example is a school district in Missouri. At present the dis-

continued on page 94

How to use mechanized accounting in a small but growing district

Here's a detailed exposition of what one school district is accomplishing with a single accounting machine. Compare its cost and results with your present program.

By AUSTIN H. SHELDON,
District Clerk and Business Manager
West Babylon, N. Y.

■ ■ ■ Throughout the thousands of "small" school districts in the United States, a new problem has been growing as these districts and their budgets grow. That problem is one of providing modern accounting procedures able to keep track of the thousands of dollars involved in budgetary accounting. It isn't just a matter of "bookkeeping." Assuming that you can have enough hands, you can get the job done. The "problem" lies in the two results of this method—high clerical cost and inadequate (and slow) financial control.

Last year we were faced with this problem of inadequate bookkeeping facilities. We've solved it by switching from pen-and-ink methods to mechanized accounting. This change was accomplished by installing an accounting machine especially designed for school district accounting. Results have been startling. On this single machine, *one operator* does our bookeeping, including:

1. Vouchers payable, with simulta-

One Sensimatic operator is able to handle *all* district accounting. In fact, this single, compact file contains all the financial records for the whole district.

neous preparation of check, check register, voucher register and schedule of bills.
2. Encumbrances and expense journal and ledger, also done simultaneously.
3. Monthly budget report.
4. Cash receipts journal and revenue ledgers, also prepared simultaneously.
5. General ledger fund.
6. Payroll check, check statement, earnings ledger and payroll journal, with certified copy acceptable by state retirement board, all done simultaneously.
7. Tax reports 941-A and W-2.

Why we mechanized

The Union Free School District No. 2 of West Babylon, N. Y. is one of the largest in this area. There are five schools in our district, four of which are elementary, and one a junior high school which now serves as a junior-senior high school. We are presently planning to build a senior high school. Enrollment is now just short of 5,000 students. Our total staff of teaching and non-teaching personnel numbers approximately 350 persons.

Between 1948 and 1951, our budget had increased 10 times. It has increased an additional 10 times since 1951 to the present. These tremendous increases were just too much for our slow, outmoded, pen-and-ink bookkeeping system to handle.

The old methods were the standard, one-job-one-ledgerbook-at-a-time procedures. Unfortunately, hand-posting, tedious totalling and various duplication-of-effort practices just could not supply the necessary statistical information as accurately or as rapidly as required. We needed speed and accuracy. With our modern, automated accounting system, we have realized this goal.

How the new system works

Basically, here's how our new accounting system operates:

Vouchers payable and check writing are done twice per month. In this operation, vendor's invoices are filed alphabetically and posted just prior to the bi-weekly school board meetings at which time they are approved. In the machine operation, the voucher check is prepared simultaneously with the voucher register. First, the machine operator types in the item description, then lists the purchase order number, budget expense code, invoice number, invoice amount and discount, if any. When all invoices for one vendor have been posted, the machine automatically computes and prints the net amount due in the appropriate column.

Printed next to the invoice amount is a small italic code numeral which corresponds to one of our nine major budget categories or expense classifications. When the voucher posting is completed, we receive a total for each of these major expense categories.

To post the check, the operator merely indexes the check number and machine-types the vendor's name and address. By depressing a motor bar, the machine automatically completes the check posting. It prints the check amount with the usual zeros protection, the date, net amount of the check and moves into position to prepare the schedule of bills.

For convenience, this schedule is done on a ditto master form, and additional copies are made for individual school board members. This process has materially shortened meetings, as each member has a copy which eliminates the old procedure of passing and signing approval slips for each bill to be paid. On the schedule of bills, the operator types in the vendor's name. The date, check number and amount are automatically printed by the machine.

As a by-product of posting the voucher check and schedule of bills, we receive a voucher and check register with completely detailed accounting information.

In our previous system it was necessary to do each of these operations separately which was terrifically time consuming and frequently not accurate or legible. Now we have the advantage of simultaneously prepared forms with much greater control and maximum neatness.

A strategic factor here is that with the new payables procedure, we now have a completely revised and thoroughly simplified method of encumbrance accounting.

Accounting tighter

Prior to the present system, we hand-posted all encumbrances and expenses. This method did not provide an accurate report of budget balances and generally we did not receive balance information until the end of the month. Now the machine provides a new to-date balance after each expense is posted.

Our encumbrance and expense ledger procedures are based on major-minor expense classifications. Each major classification is broken down into several minor or subsidiary accounts. Simultaneously, posting the encumbrances journal and ledger cards is only a matter of picking up the previous balances and typing the vendor's name. Next, the purchase order and budget code is entered into the machine. The machine then shifts to the encumbrance "placed" column in which the encumbrance amount is entered. At the same time, the operator selects the appropriate distribution key for the major expense classification.

Our machine (a Burroughs Typing Sensimatic accounting machine) automatically computes the to-date totals of outstanding encumbrances, expenditures, etc. After the encumbrances have been posted to the budget cards, the machine provides totals for each major classification which are subsequently posted to the major expense classification control cards.

A significant factor in our new plan is that we now post purchase orders in any sequence to the subsidiary budget cards and receive major expense classification totals as a by-product. Previously we had to sort purchase orders by major expense classifications and post subsidiary budget cards for each classification to receive totals after each major classification. Consequently, purchase orders which had several major classifications had to be rehandled and sorted a number of times.

To liquidate encumbrances, the previous balance is entered into the machine, the vendor's name is typed in, followed by the purchase order reference number and code classification. The liquidation amount and the major expense code are then listed. Next, the operator indexes the voucher check number. At this point she enters the expenditure amount and distributes it to the appropriate major expense classification.

At the end of the posting run, the

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For years the leader where crowded school conditions demand maximum service and long life. There's a Boston K-S or Ranger model for wall, window or table mounting . . . or the portable Champion for schools with steel interiors. All models are all metal . . . hardened steel gears . . . 25% more cutting edges.

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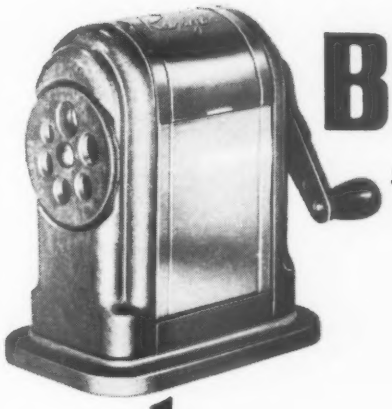
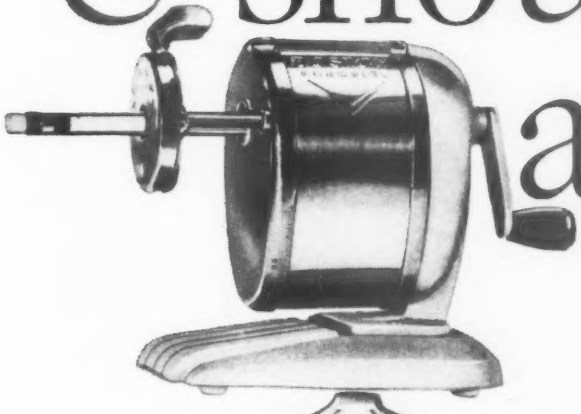
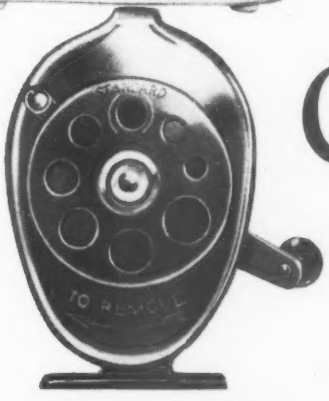
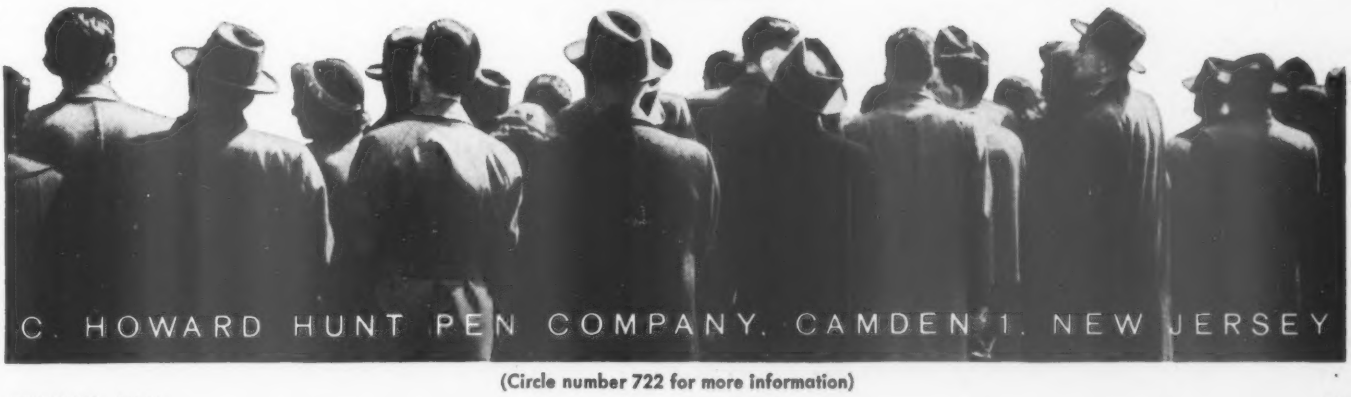


head & shoulders above the crowd







C. HOWARD HUNT PEN COMPANY, CAMDEN 1, NEW JERSEY

(Circle number 722 for more information)

machine provides separate totals of liquidations by major expense classifications, besides totals of major expenditures. For concrete accuracy in this procedure, the major expenditure totals must equal the totals obtained by major expense codes in the vouchers payable operation.

Preparing the budget report

The budget report is another operation that is done right on the machine. With the school board meeting in mind, we also do the report on a ditto master so that each member may have a copy. To prepare it, we list the balances from the subsidiary budget cards in the proper sequence. When all ledger cards for one major expense classification have been listed, the machine provides totals which must equal the totals on the major expense control cards. After all subsidiaries for all expense classifications have been posted, the machine is totaled and prints automatic grand totals for the entire budget. These totals then become a trial balance for our whole school budget.

Simultaneously posting the cash receipts and revenue journal and ledger is another accounting job handled on the new machine. This operation is done on a monthly basis. Ledger cards are prepared for the various sources of revenue such as state aid, transportation, etc., and estimates of revenue expected from each source are assigned to each account. As receipts are posted, a new total or balance to-date is provided, as well as a decreasing uncollected balance. As a by-product of the ledger posting, the cash receipts and revenue journal are secured.

Payroll faster and easier

One of the greatest gains in time and effort that we've received in our new system is the payroll procedure. In *one* fast, simple operation we simultaneously prepare a three-copy payroll journal, employee's earnings ledger, check and check statement. Payroll used to require a full workweek to complete because each operation was a separate job. Now we complete the entire procedure in a day and a half.

With the Sensimatic, we receive automatic balances of to-date earnings, retirement, withholding tax and social security. We also receive accumulative totals of earnings, deductions and net pay as a by-product of payroll writing. The paycheck is prepared in complete detail with the date, name and automatic advancing of the check number, protected net pay amount, plus the check amount itself.

Our payroll journal is accepted by the New York State Employee Retirement system and is certified accordingly that it is a true and exact copy of the payroll for a specific pay period. Important to note is that the new payroll journal has proven very convenient for the school district treasurer. In the old method, he had to make entries on his records for all checks issued. Now he merely picks up the totals and his report is complete.

There are, of course, several additional advantages in our modern system. The one which impresses me the most, however, is the fact that the machine's capacity is well beyond our present needs. In these days of rising enrollments and growing school districts, an accounting procedure should not only be judged by what it presently does, but equally important, what its potential is in the face of future expansion. **End**

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EXPLORATIONS IN EDUCATION

The following case histories are reported as part of a joint research project with the Teacher Education Committee of the Massachusetts Association of School Committees.

Our ability to continue presenting this material depends on the willingness of our readers to share their experiences.

With this in mind, we suggest that you ask yourself, right now, "What are we doing in our district that can be of help or reassurance to other districts struggling to improve their schools?" Here are some examples of what we're seeking:

1) Any program that makes better use of teacher abilities; 2) Any program that breaks away from traditional concepts of class size and space utilization; 3) Any program that makes better use of the hours in a school day.

Address your material to "Explorations in Education," in care of this magazine.

UNGRADED PRIMARY EXTENDED TO FULL SIX-YEAR SCHOOL

IN EDMONDS, WASH., a fast-growing suburb of Seattle, elementary school teachers are being given the opportunity to try different methods of pupil grouping, promotion and grading.

In many respects the most complete and "different" undertaking is that at the Maple Park School, where the concept of the ungraded primary has now been extended through the full six years of elementary education.

With an ungraded primary, in use at Edmonds for several years, nine achievement levels were defined and it was necessary for students to complete eight of these before they could enter the fourth grade. With a completely ungraded elementary school, there are 19 definite achievement levels, 17 of which must be completed before a child can enter the seventh grade.

Under this system, there are eight regular levels to be completed in the first three years of school (the primary grades). A child who has finished these levels before he is physically, socially or emotionally prepared to enter the next grade level, is retained in a ninth level, which is a holding group for just such children.

By the same token, students in grades four through six have nine achievement levels to complete in three years (levels 10-18) with a holding level (19) available at the end of that time for students who have completed the academic work before they are otherwise ready to enter junior high school.

Although academic prowess (reading readiness in the primary grades) is the basic criterion for advancing a child from level to level, maturation, social adaptability, physical development and motor control are considered in making the jump. Promotion to a new level is attained several times during a school year.

Three major advantages have come from the ungraded elementary system. First, no stigma is attached to the slow beginner, or the slow learner. Second, a child who starts slowly, then begins to catch up with—or even surpass—other children of his own age, has the opportunity to do so. In the inflexibile grade system, he might have to repeat a grade, part of which he already knew, and then, to catch up with his peers, he would have to skip a year of valuable work. Third, for the bright child who is physically immature, a period of enrichment is available in levels nine and 19 which allow his mind to advance without putting him into physical competition with children more capable than himself.

Reported by A. Richard King, administrative assistant, Edmonds, Wash., School District No. 15.

SPELLING BEES BUZZ BACK; STING STUDENTS TO EXCEL

THIS MAY NOT BE A NEW IDEA in education, but nothing dictates that good ideas out of the past can't be revived for use in the present.

Principal Tom Hill of Naturita, Colo., reports just such a development when he writes, "We are having the old time spelling bees that were so popular a few years ago."

Principal Hill reports that students in the third through eighth grades are participating in these contests, with the teacher picking the 10 top spellers from her room and then issuing a challenge to other schools in the area.

Spell-downs are held at PTA and other parent gatherings and have been attracting large crowds. "Parents love these contests," Hill states. "We get as many par-

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ents to one of these events as we do to a basketball game."

But the spelling bees are not designed to help the parents, though they have resulted in better public relations for the district. Their effect on the children is the important factor.

"We have found," Hill continues, "that the students spend considerable time studying. They try very hard to become one of the top 10 in their room. I feel that our students have picked up at least 30% in their spelling since we began this practice . . . We feel that we have found a way to interest the children which will greatly help us in teaching spelling. The students seem to love the contests and are always studying for the next one."

Reported by Principal Tom Hill, District 25, Montrose County, Naturita, Colo.

EXTRA-CURRICULAR COMPETENCE TEAMS SPARK GIFTED

IN AN EFFORT TO PROVIDE an opportunity for gifted and superior students in certain subject areas to progress beyond the normal high school level in a supervised study situation, Watsonville, Calif., Union High School currently sponsors two "competence teams" with more in the offering. The two existing teams, one in atomic energy and the other specializing in a study of the United Nations organization and functions, are each composed of 12 members, three from each of the school grades nine through 12. A member of the faculty staff with special training and interests in the field concerned is assigned to supervise each team. Student members are selected on the basis of school grades, standardized test scores, nominations by teacher, interviews and speaking competitions. Each year the graduated students are replaced by ninth graders.

During the past two years, these teams have appeared before service clubs, radio audiences and other civic groups as quiz panels. Questions are directed to the group from the floor and the teacher in charge acts as moderator. Without exception, public reaction to these team appearances has been extremely favorable. A number of field trips for these groups is scheduled during the school year, and they regularly meet outside of the established school day. They utilize the daily school bulletin to announce pre-school, after school and lunch period meetings.

Study materials for these teams have been secured from a number of areas. U. S. Government publications and college level texts have been primary sources, with literature received from United Nations agencies and the Atomic Energy Commission proving to be very helpful.

In this school of 1,900 students and 80 teachers, the establishment of competence teams has been fruitful from two standpoints: **1)** It has enabled us to partially take care of the special needs and interests of

Here's what we're doing in our district

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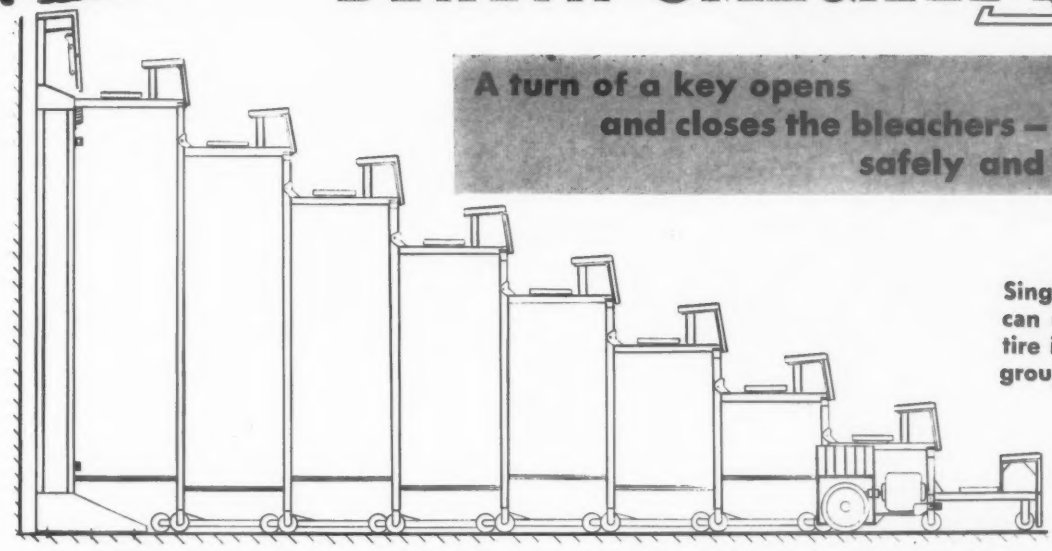

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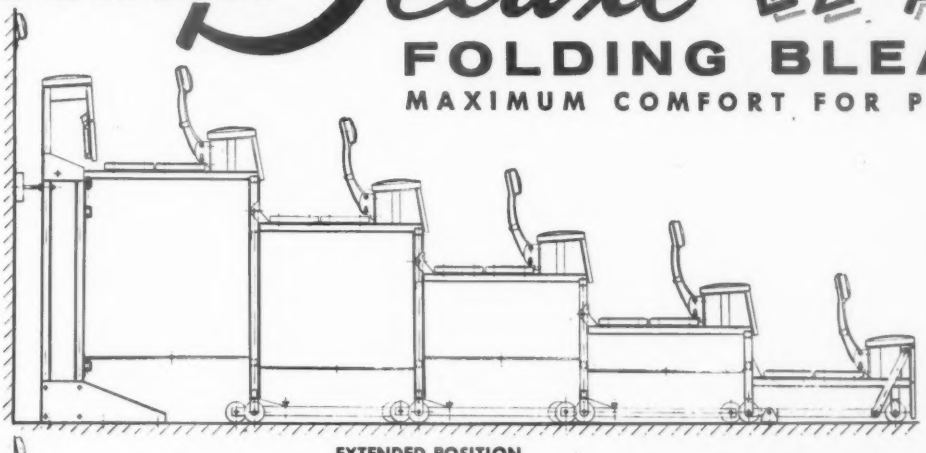

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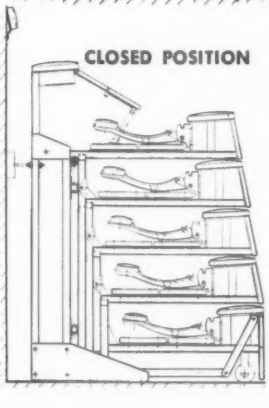

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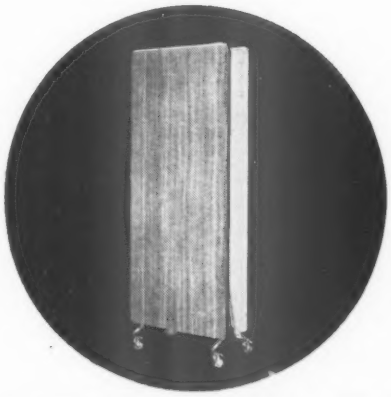

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capable students, and **2)** the school has enjoyed very favorable public relations reactions wherever these teams have made public appearances.

Competence teams have now become an accepted part of our extra-curricular offerings and we are planning to organize additional teams in other subject areas as the need develops.

Reported by Principal Erwin A. Decker, Watsonville Joint Union High School, Watsonville, Calif.

AVAILABLE TEACHERS SPLIT TO OFFER SPECIALIZED TEACHING

UPPER GRADE STUDENTS of the Riddle, Ore., Elementary School are now getting the advantage of specialization from teachers trained in major fields—both curricular and extra-curricular.

The seventh and eighth grades each have two sections. Children report to their "home rooms" in the morning for roll call, milk count, opening exercises and other routines and then remain with their home room teacher for the first of four morning class sessions in a major subject.

Each of the four teachers covers the four rooms in a major field—science, mathematics, English and social studies. During the afternoon, both vocal and instrumental music are taught by full-time teachers in those fields and the two men and women instructors from the two grades combine their physical education and health classes. The remaining subjects are taught by the "home room" teachers.

At the end of the first report card period, it was found that by shifting only three or four students a more enriched program could be taught to the higher ability section of each grade. This was done with good results and the cooperation of parents and students alike.

Three days per week an activity period of 30 minutes is devoted to arts and crafts, dramatics, mixed chorus, journalism and study.

Alvin E. Barnhart, Principal, reports that "General reaction of students, staff and parents has been greatly in favor of this method of giving the children the best educational and cultural advantages obtainable with the staff at hand."

Reported by Superintendent Kenneth A. Stuart, Riddle, Ore.

GROUPS STUDENTS EARLY, PUSHES THEM FAST AS POSSIBLE

IN EDINBURG, TEX., students are grouped according to educational achievement as early as possible in the elementary and junior high school years.

As a result, all teachers are encouraged to conduct a program which will allow for the maximum educational development of the particular class with which they are working. Thus, whether the class is slow, average or is made up of more gifted students, the teacher is asked to teach to the limit of the ability of that group.

Teachers of the best students, for instance, are urged to use textbooks and other materials from grades beyond

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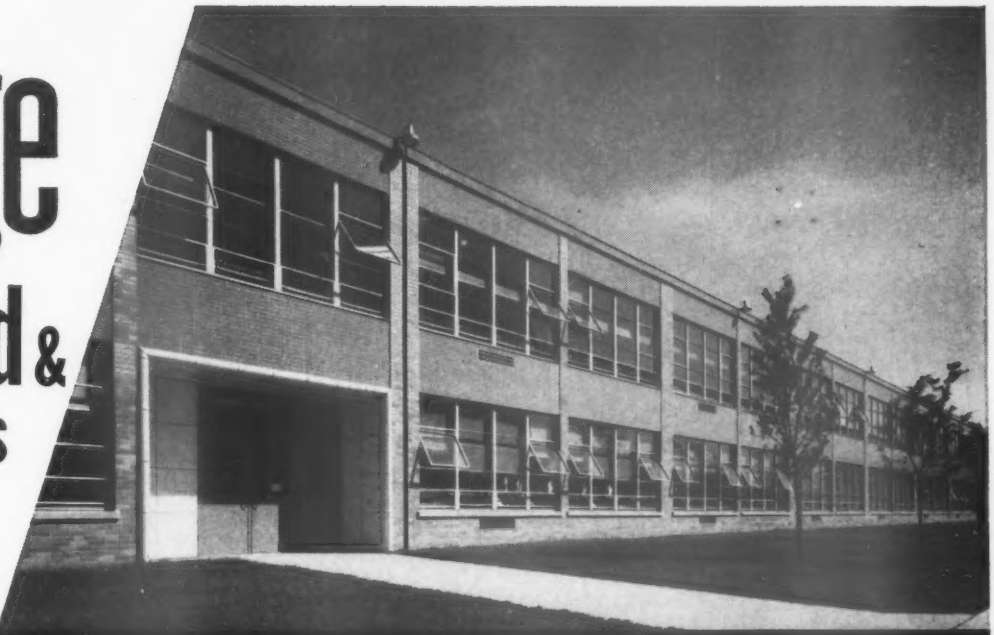
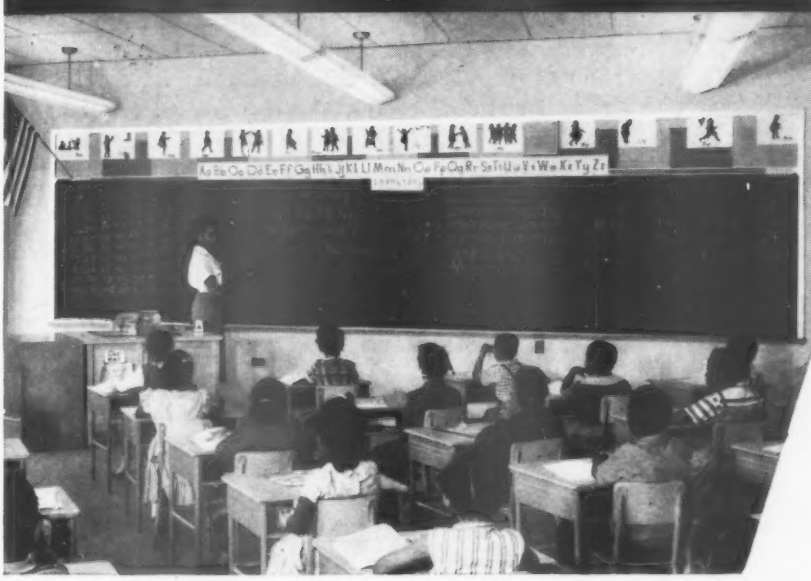


Crispus Attucks Elementary School, Chicago, Ill.
Architects: Fugard, Burt, Wilkinson, and Orth, Chicago, Ill.



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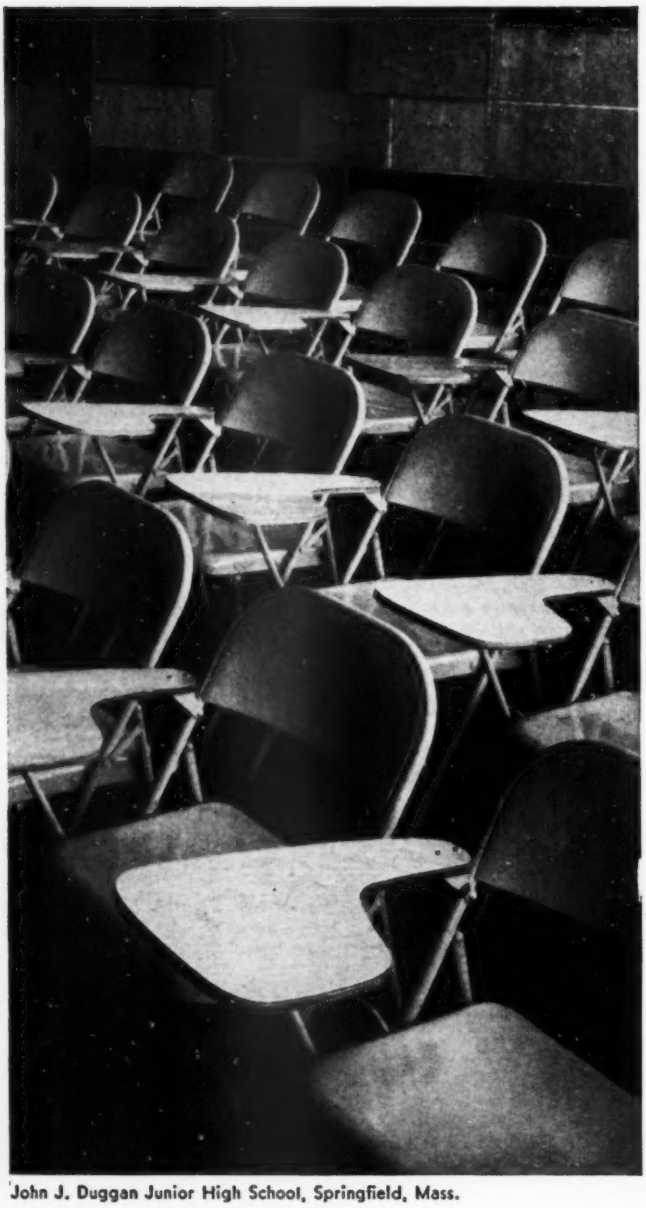
which the students have been assigned, whenever such materials prove applicable and desirable.

In cases where teachers have been outstandingly successful with a particular group of students, they are asked to remain with the group for at least another year, eliminating the always difficult period of breaking in with new students and new teachers.

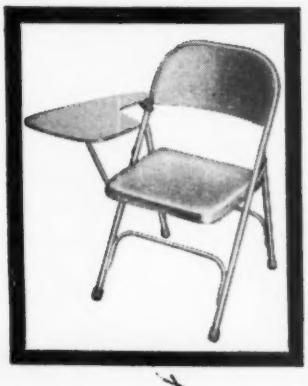
As a result of this early "teaching to the limit of capacity," able students can complete seven years' work in the six-year elementary school. This one year jump is carried through the junior high school (where students study eighth and ninth-grade subjects for junior high school credit) and the high school. Students who enter the high school with advanced credit, are able, in their senior year, to undertake advanced senior courses in mathematics, science, English and social studies. "These are not college courses and are not completed for college credit," says Superintendent Ohland Morton. "They are broad area, high level courses, more advanced in content than senior courses taught to those who complete a 12-year program in 12 years.

"We believe that by 'taking up the slack' with our more able and willing students, we are providing them with a strong 13-year educational program in the conventional 12 years. At the same time . . . we get a better educational product from those . . . not in our advanced studies program."

Reported by Superintendent Ohland Morton, Edinburg Consolidated Independent School District, Edinburg, Tex.



John J. Duggan Junior High School, Springfield, Mass.



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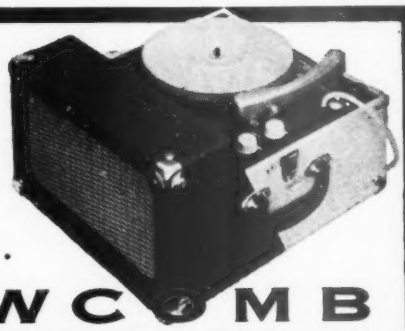

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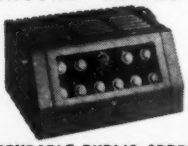

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How the Los Angeles schools

for their students

■ ■ ■ The dimes, quarters and dollars spent at school by students can add up to a sizable sum, even in small school districts. In a big district such as Los Angeles, the staggering total of student expenditures is over $7.5 million annually—and has brought into being a special supervisory agency, the Student Body Finance Branch.

This agency's main job is to handle routine regulatory items, keep a centralized account of each school's financial condition and train school financial managers, bookkeepers and elementary school clerks. In addition, however, it spends a considerable amount of time on protection of student interests—either by controlling the quality of merchandise and services offered pupils at school or by developing contacts with suppliers which result in lower costs to students.

Approved list

All merchandise sold on school premises must be purchased from vendors on a list approved by the Student Body Finance Branch. This device not only protects individual school principals from harassment by salesmen but also controls quality, price (in some instances) and performance.

Here's a sampling of requirements imposed on vendors who wish to "make the list":

- Photographers desiring to take class pictures must submit references, give print and paper specifications, agree to work within certain price ranges.
- Hot dog, popcorn or soft drink vendors who sell their products at school athletic events and other after-school activities must carry liability insurance and guarantee that their equipment conforms to local health, fire and police ordinances.
- Salvage firms collecting the product of school paper or rag drives must post a $1,000 performance bond.

The list is revised annually. Vendors who have not sought nor received much school business are queried about their desire to stay on the list; those whose products or services have been criticized by customers at individual schools are informed or warned.

Direct buying

The procedure by which senior class sweaters are now selected affords the most dramatic example of the savings that can be effected by dealing directly with a manufacturer. By eliminating both jobber and salesman and standardizing sweater weights and styles to a manageable few, the Student Body Finance Branch now offers Los Angeles high school seniors, for about $9, sweaters comparable to those for which seniors in other areas might pay as much as $15.

The Finance Branch draws up minimum specifications for sweaters and invites manufacturers to submit samples and price lists. Student viewing committees (elected by their classmates) make their choices, uninfluenced by any adult. A representative of the Finance Branch is on hand only to write the order and transmit it to the chosen manufacturer. The manufacturer then accepts responsibility for measuring students individually and for making deliveries of the sweaters to the school.

In view of the totals involved it is easy to see why sweater manufacturers (currently eight) find school business appealing: last year more than 17,000 students spent better than $144,000 for senior-class sweaters. The manufacturer whose sweaters were best-liked—that is, were chosen by approximately 52% of the student selection committees—received $84,000 worth of business. Even the least-chosen sweaters—those picked by only 3% of the students—grossed their manufacturer $4,900. Individual school orders varied from 50 to 600 sweaters.

Similar selection procedures apply to the emblems which are made to order for each senior class. The school order is placed by the Finance Branch, but the emblem manufacturer is responsible for delivering the emblems to the sweater manufacturer who sews them onto the sweaters.

Savings to students have also been effected by Finance Branch reliance on direct competitive bidding to set prices on ninth grade class pins. By

school superintendent

teacher

are you in this group?

school physician

school nurse

. . . they've discovered how one Beltone audiometer makes student hearing tests faster and more accurate!

Authoritative estimates reveal that right now 3,000,000 school age children suffer from hearing loss. Often neither parents nor teachers realize what is the matter. Such symptoms as indifference, shyness, speech difficulties, laziness and failure to pass grades are mistaken for something else. Thus the only sure way to detect hearing loss is by accurate audiometric testing.

Leading educational systems have discovered that Beltone Portable Audiometers provide a simple solution to this often unrecognized problem. For only $295, less than the estimated yearly cost of a single grade repeater, your school may set up a complete Beltone hearing conservation program for students. Beltone Portable Audiometers are entirely adaptable to your existing facilities—one audiometer is all that is needed to perform both screening and threshold tests. There's nothing complicated about their operation, either. Instruction in audiometric testing takes only a few hours.

Why not investigate this remarkable Beltone system now by sending for Beltone's free, fully illustrated booklet, "Hearing Tests for School Children"? No obligation, of course.

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Model 9-A
Basic Audiometer

For individual hearing tests. Features exclusive circuiting, direct reading of hearing loss from easy to read calibrated dials. No calculations necessary. Weighs only 11 lbs. With matched receivers, plus audiograms, instruction manual. Control panel faces away from student. Only the operator knows when tone is presented —exclusive with Beltone. Complete, ready to use, $295. With signal switch for patient use, $320.

Model 11-A
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Same fine features as Model 9-A with the addition of circuits permitting group hearing tests for up to 40 students. Complete, $325.

Send for FREE Book! *Beltone's free, fully illustrated book reveals proven methods for performing school hearing tests. Actual size 3⅛ x 8¾", 24 pages.*

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Please rush me your new free book, "Hearing Tests for School Children," immediately.

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world's largest exclusive manufacturers of precision audiometers and transistor hearing aids

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WE CAN HAVE THE SCHOOLS WE WANT!

That is, if we want better schools badly enough to work . . . and keep on working . . . for them!

Great strides have already been made in the never-ending struggle to provide enough classrooms for our country's schools, enough teachers, enough textbooks and supplies. Citizens in communities across the country have banded together in local groups to face the problems that have been endangering their children's education . . . *and* their future. These citizens have found that working for better schools can be one of the most rewarding of all experiences . . . as well as the finest of contributions to their communities and children.

The need for better schools, however, right here in our community . . . as well as elsewhere . . . is still very much with us and will continue to be with us for years to come. Only by planning and working together (for at least another ten years) will we have the schools our children deserve.

For information on how other communities have faced their problems, write today to BETTER SCHOOLS, 9 East 40th Street, New York 36, New York.

PUBLIC SERVICE ADVERTISING COUNCIL

standardizing the design (three qualities are now offered) and contracting with a single manufacturer, the Finance Branch has reduced the cost of these pins to individual students by approximately 15-25%.

Buying stationery

A third price-cutting device now being explored is to contract directly with manufacturers and jobbers for stationery supplies sold through student stores.

Individual school store managers are resisting the idea of centralized purchasing because they fear it will lead to warehousing and delivery, with attendant overhead and increased costs. The Finance Branch, however, says it proposes to go no farther than to develop agreements by which the vendor will make drop deliveries, on order, at individual schools.

Current example: Those high schools whose student stores sell enough candy to take 100-count boxes of a given brand get them, through contacts developed by the Finance Branch, for 3.2¢ a bar, instead of 3.7¢ when packed in 24-count boxes. (The half-cent saved is 10% of the retail price.)

Athletic equipment

Still ahead is a decision on whether the Finance Branch should establish controls for the purchase of school athletic equipment.

There is pressure from the school district's top administrators to effect savings such as have been demonstrated on sweater purchases and jewelry. The Finance Branch estimates that 15-25% of the annual $150,000 spent for shoulder pads, helmets, jerseys, balls and other equipment could be saved for student bodies by dealing directly with manufacturers.

However, individual school people cherish local autonomy. Each coach has his favorite brand of athletic equipment and defends his right to purchase it. Jobbers naturally will protest the loss of business inherent in a Finance Branch decision to deal directly with manufacturers.

The prognosis, therefore, is that a long series of conferences between the Finance Branch, school district administrators and heads of athletic departments lie ahead. **End**

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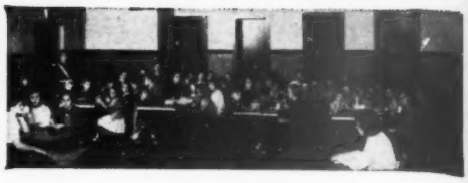
The oldest multi-purpose room in existence. It's the original Schieber installation, made 28 years ago and still in daily use



the SCHIEBER PLAN

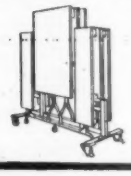
Here is a simple formula to use in selecting the multi-purpose room equipment correctly engineered to meet your particular problem.

IS THIS YOUR MULTI-PURPOSE ROOM?

Adequate wall space and unobstructed floor plan permits installation of single depth pockets: Specify Schieber "In-Wall" (in-the-wall or against-the-wall mounting). This equipment is all-steel, the strongest and the only equipment of its kind built for schools. There is no record of one ever wearing out. Eliminate need for special storage area.

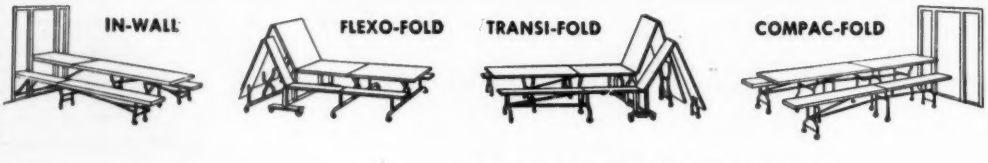
OR IS THIS YOUR MULTI-PURPOSE ROOM?

Limited wall area or irregular room layout: Specify Schieber "Multiple Depth" pockets of 2, 3, or 4 complete Compac-Fold units each (against-the-wall, partially or completely recessed mounting). Units may be rolled to any position for complete use of floor space. Eliminate need for special storage area.



WHEN TO USE PORTABLES

(1) Budget positively prevents use of wall pockets. (2) Area will not be used for lunch hour seating in future. Arrangement is temporary. (3) Enrollment increase requires auxiliary seating. Where portables are indicated, get the facts on Schieber—they're "school engineered."



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THOUGHT STARTERS

A monthly review of ideas, new products and helpful hints

PTA members put map on the school

Many schools have been put on the map, partly through the work of their PTA chapters but at the Mercer School, Shaker Heights, Ohio, the PTA has reversed the procedure, putting the map on the school.

The map is a 42-foot replica of the United States painted on the blacktopped playground. It includes all 49 states (Alaska was a late starter) and designated state lines and capitals. It is completely scaled except for Rhode Island, where a few acres of sea were appropriated to allow standing room within its borders.

The map will be used for games (relay races, for instance, from California to New York, being careful to avoid Texas, Minnesota and Iowa) and as an aid to current events and geography classes.

The parents who undertook the project chose white street paint for its durability and tinted it with pink, blue and yellow dyes to vary the colors. State names and outlines are painted in black.

It is expected that students will one day add mountains, rivers, cities and other geographical points of interest to the outlines prepared by the parents.

Russian mathematicians urge modern teaching

The United States isn't the only nation concerned with modernizing the teaching of mathematics in high school. Two Russian mathematicians have brought into the open a struggle in that country to eliminate outmoded techniques and substitute modern ideas and concepts.

The two Soviet scientists, Y. B. Zeldovich and A. D. Sakharov, are particularly disturbed at the emphasis now placed on Euclidean geometry, individual algebraic problems and complex applications of trigonometric functions.

They have called for a greater emphasis on simple ideas that grow from advanced mathematics and that are of vital importance in later applications. The scientists suggested that elements of the theory of probability, analytic geometry, calculus and vector analysis should be taught in high school.

Their ideas closely parallel those of mathematicians in the United States who have called for modernization of our mathematics teaching.

District polls parents on dancing in school

An objection by a religious federation representing about 5,000 persons has forced the Waterloo, Iowa, schools to poll parents of junior and senior high school students concerning the desirability of dancing in physical education classes.

In Waterloo's junior high schools, as well as elementary, square and folk dancing are taught as part of the gym program. Boys and girls also have separate gym classes. In the high school, dancing—modern dance—is given only to the girls.

The religious group objected on the grounds that dance "lowers morals and ignores the fact that the school's work should be primarily educational." The group has asked that special physical education classes be formed for non-dancing students.

In defending the dancing instruction, Superintendent Jack M. Logan pointed out that social dancing is not included in the program, nor taught in the schools. Dancing is a standard physical education subject in many schools around the country.

Because of the group's complaint, a letter has been sent to all parents in the district stating that if enough parents in each grade in each building wish their children to have no dancing in physical education classes, special classes will be formed. The letter, however, points out that being excused from regular physical education classes may both embarrass the student and handicap his physical education work.

A memo that never got sent (almost)

The following letter and enclosure were directed to SCHOOL MANAGEMENT by Superintendent George

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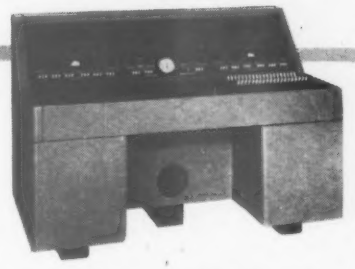
RAULAND School Sound Systems are unsurpassed for versatility, rugged performance and value. They perform every conceivable communications function for administrative control, educational program distribution and 2-way communication. Here, truly, is the ultimate in budget-minded School Sound, designed and built to stay modern for years.



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RAULAND Central Control Sound Systems are available to fit the exact needs and budget of your school. Available features include:

FM-AM Radio—selects any radio program on FM or AM for distribution to any or all rooms

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Intercom—permits 2-way conversation with any or all rooms

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RAULAND Systems are available with capacity up to 160 classrooms. RAULAND Public Address equipment is also available for athletic field coverage.

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☐ Send full details on all RAULAND School Sound Systems.

We have _____ classrooms.

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School _____

Address _____

City _____ Zone _____ State _____

(Circle number 731 for more information)

A. MacArthur of Lancaster, Mass. We felt our readers would enjoy sharing it with us:

"After a rather hectic school year both on the local and national level, the enclosed town report submitted by one of my elementary school principals came as a refreshing surprise. It wasn't until I reached the third paragraph that I realized the true report, the one to be read by the school board and townspeople, would follow.

The gentleman who authored this report is Mr. Leo A. Cohen, principal of the Lancaster Memorial Elementary School, a forward-looking, progressive young "school master," blessed with the necessary touch of wit needed to successfully administer a local grammar school.

I, titular head of a Coxey-like army, submit the second annual report of the Lancaster Memorial Elementary School.

We respectfully suggest that the public simply read the previous 20 annual town reports for the schools. It will be immediately apparent then that we, the benighted teaching staff, know—and have known for 20 years —THE WAY to teach. There is little to be added to an unblemished record of this caliber. The kids read, write, spell and figure—in varying degrees, according to what God has bestowed upon them (and this is certainly none of our doing).

To radical individuals who think significant changes have been underfoot we caution you: Hew to the line of the tried and true—be not deceived by the furor of the lunatic fringes. The staff at good old Memorial will not be disuaded from the RIGHT course by wild-eyed psychologists and educators. Our forte is good solid mass teaching and to hell with the hindmost. No frills or fads. If your child does not get an A notify us at once and the error will be immediately remedied.

We hold fast to the concept that what was good enough for Dad is good enough for his great grandson. Coupled with our belief that a kid is after all just a kid and that geniuses are screwballs, we sustain a kind of pastoral ring-around-the rosy.

We invite the public to come down and see our splendid array of cut-outs, tracings, busy work, and notebooks (obtained largely from pages in Life magazine and books stolen from the parochial schools).

We would also like to point out the cost of living has gone up and we should darn well be getting some raises. Perhaps a merit system based on a personality test would be the solution.

Finally, one social event stands out on our busy calendar of staff luncheons, visits to the beauty parlor, and courses in Mediaeval folklore at good old State Normal; that was the farewell party given our beloved principal Mr. Leo A. Cohen about whom it may be said he may have been misguided but he certainly put forth the effort. We sincerely hope that his release may be obtained soon and that he will subsequently find labor more in keeping with his mental development.

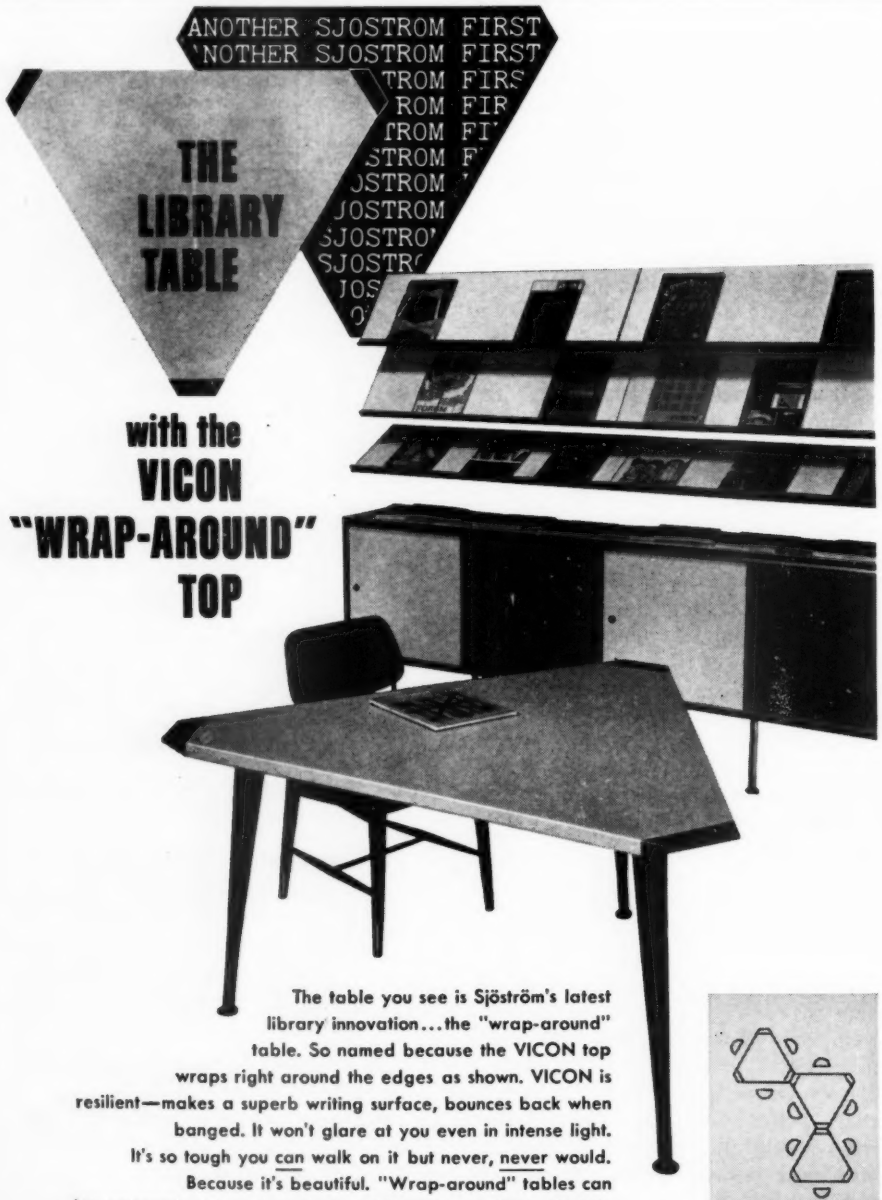
Respectfully submitted, Leo A. Cohen, Principal.

Rise in students brings drop in costs

The bigger the enrollment, the smaller the cost of per pupil education a recent sampling in Iowa school districts shows. The statistics compare tuition costs in the state's 694 districts which maintain approved four year high schools.

In schools where the enrollment was 24 or below, the average per pupil cost is $599; in those with more than 600 students, the cost drops to $447.

Schools enrolling 400-499 children have the lowest per pupil cost—$398.



The table you see is Sjöström's latest library innovation...the "wrap-around" table. So named because the VICON top wraps right around the edges as shown. VICON is resilient—makes a superb writing surface, bounces back when banged. It won't glare at you even in intense light. It's so tough you can walk on it but never, never would. Because it's beautiful. "Wrap-around" tables can be rectangular, in various sizes, or triangular as shown. Details on this and other library units are waiting for your query.

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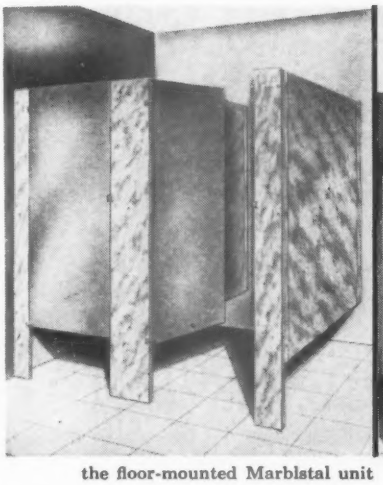
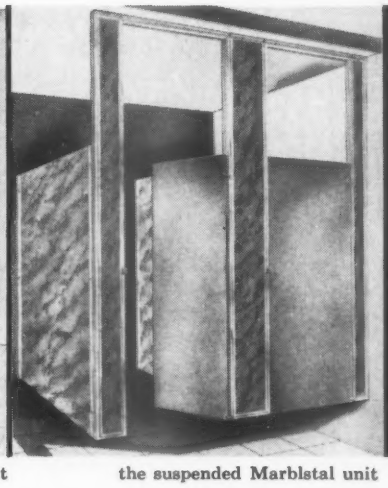


the floor-mounted Marblstal unit



the suspended Marblstal unit

News of the much-talked-about prefabricated marble toilet compartment that is considered perfect for schools...

Since its introduction in the fall of 1958, the Marblstal unit has come to be regarded by architects as a complete answer to the age old quality-economy problem. Here in one unit is a fine compartment with the luxury and lasting beauty of genuine marble and an exceptionally low budget price, a compartment with all the quality extras that usually cost so much. *A complete, ready-to-install packaged unit, it contains everything in itself—from marble and aluminum components right down to coat hook, hinges and holder.* Here are a few of its salient benefits:

- *two* types of units to choose from—a suspended as well as a floor-mounted unit.
- fine marble produced by The Georgia Marble Company—three distinct varieties that are famous for their beauty and extreme durability.
- a heavy-duty steel door—not wood—finished with durable baked enamel.
- satin finish anodized aluminum extrusions, and aluminum and nickel plated hardware.
- nylon cams that never need lubricating or adjusting—far superior to the old ball bearings that would sooner or later corrode.
- vinyl shock absorbers that cushion components—protecting them from the rough usage they're bound to get.

In short, Marblstal units are just what the architects ordered for schools. Maintenance is very low—genuine marble needs no painting, will never rust, takes a minimum of care to keep sparkling clean. The entire integrated unit is built to last, to take tough treatment that children are bound to give it. It is low priced—even below units that do not compare with its quality. It can be installed easily, quickly—and at a lower cost than conventional units.

When you build that new school, investigate Marblstal. It can save you precious building funds and serve you long and well.

If you'd like to have up-to-date information and details now on the Marblstal Prefabricated Marble Compartment, simply write The Georgia Marble Company, Dept. S-13, 11 Pryor Street, S.W., Atlanta 3, Georgia.

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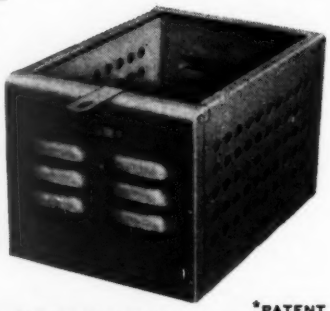

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Texas TV course

adds to state's list of qualified teachers

More than 1,500 Texans have been spurred to teach as a result of this experiment.

■ ■ ■ School districts in Texas have obtained more than 1,500 teachers as a result of a series of televised lectures on how to teach, the Texas Education Association (TEA) estimates.

The programs are aimed at potential teachers who have college degrees in any field. Twenty television stations are telecasting the series this year to an audience of 10,000. This includes many administrators and certificated teachers in the state's more than 1,000 districts, as well as hundreds of the people for whom they are meant.

The television series, known as the "Texas Curriculum Studies," is aimed at qualifying potential teachers for temporary teaching certificates in Texas, according to Dr. Lee Willborn, assistant commissioner for instruction of the TEA. It is one of several paths being explored to overcome the shortage of teachers, particularly in West Texas.

The Houston Independent School District, largest in the state, has added greatly to the supply of substitutes which it can legally employ, as a result of the television

series, said Richard Jones, assistant superintendent for personnel.

The El Paso area (in West Texas) has undoubtedly been the chief beneficiary. Sixty-four teacher recruits were enrolled in the project through Texas Western University last year, and 46 of these were actually teaching in the public schools.

Two years ago station KPRC-TV in Houston pioneered a series of television programs which were titled, "Let's Teach." Any person with a college degree, in any field could register for the course through Houston colleges and universities. By passing mid-term and final examinations given at the colleges themselves, the telestudents could qualify for a temporary teaching certificate issued by the state. These teaching permits are valid for one year, and renewable for two additional years.

Last year the teacher recruitment effort was broadened to include over a dozen television stations all over the state. This year 20 stations are broadcasting the course.

The telecourse, virtually all of which can be completed at home, includes 26 telecasts, curriculum study guides, television viewing guides, textbook assignments and mid-term and final examinations.

Each person who wants credit for the course—toward the temporary teaching certificate—must register

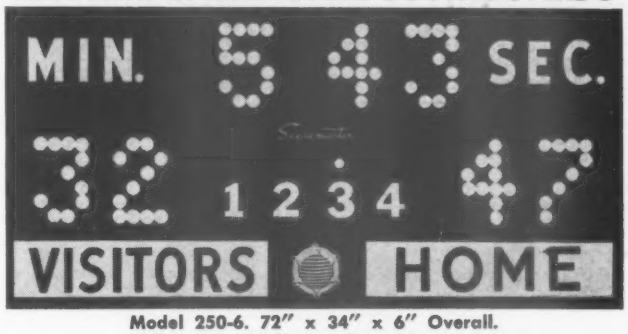
TELEVISION BLANKETS THE STATE

KGNC - TV, Amarillo
KCBD - TV, Lubbock
KFDX - TV, Wichita Falls
WBAP - TV, Fort Worth
KLTV - TV, Tyler
KRBC - TV, Abilene
KROD - TV, El Paso
KWTX - TV, Waco
KTRE - TV, Lufkin
KOSA - TV, Odessa
KCTV - TV, San Angelo
KBTX - TV, Bryan
KTBC - TV, Austin
KFDM - TV, Beaumont
KPRC - TV, Houston
WOAI - TV, San Antonio
KRIS - TV, Corpus Christi
KRGV - TV, Weslaco

Twenty television stations blanket the state and offer all interested people a chance to participate. Almost all the work can be done at home. By completing the course, and passing tests, students earn temporary certificates.

Scoremaster

ELECTRIC BASKETBALL SCOREBOARDS



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5" Letters. 6½" x 10" Numbergrams

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TIME-OUT CLOCK (Optional) • FIVE BRILLIANT COLORS

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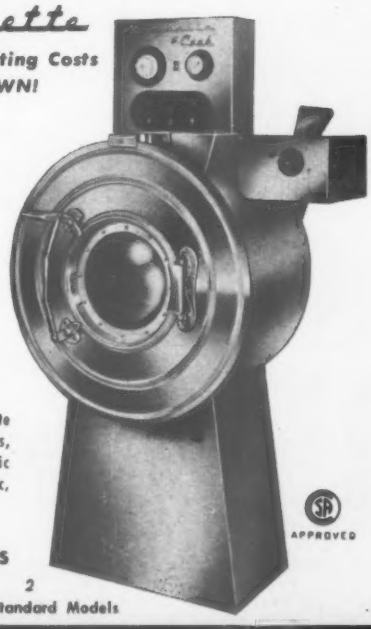
School Operating Costs GO DOWN!



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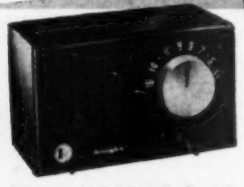

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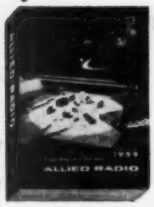

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through one of the 47 participating colleges and universities. Colleges establish their own procedures for screening and enrolling applicants, and specify any additional course requirements which they require for each enrollee who wants to qualify for permanent certification as well. Most colleges charged a $15 fee last year.

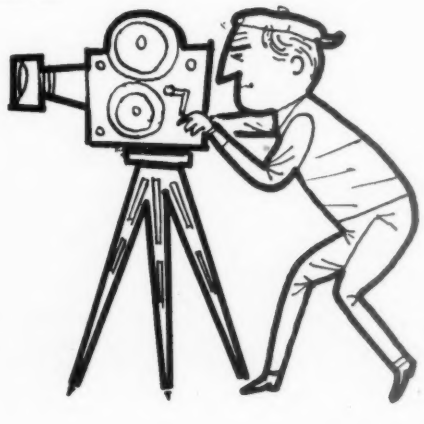
Local school superintendents decide, of course, whether individual college graduates recruited through the project for teaching are qualified for any specific vacancy they have to fill.

Although 712 students were officially registered in the telecourse during the first two years and 391 of these have gone into teaching, these figures actually reflect only a small part of the state-wide emphasis which this project has given to teacher recruitment through the combined efforts of schools, colleges, professional and lay groups and 20 television stations," Weldon Brewer, assistant director for teacher recruitment by television, said. "Fifteen hundred has been cited as a very conservative estimate of the number of degreed teachers now employed in Texas schools who probably would not be there if the project had never been undertaken."

Brewer added that the teacher shortage appears to be no worse than it was two years ago. He said there are many indications from school superintendents that more selective types of recruitment should be used today because of a surplus of teacher applicants in some areas of the state.

The industrial areas are able to set their standards a little higher than the rural areas because many wives of industrial workers are qualified as teachers. The teacher pay scale—which is generally a little higher in the industrial areas in the eastern half of the state—also tends to attract more teachers. However, the Houston scale, which is slightly lower than that of many suburban districts surrounding it, has left the big district with just barely enough qualified teachers for regular appointments. This year two TV-qualified temporary-certificated teachers were employed among the regulars, but the list of substitutes would not be adequate except for the presence of many college graduates holding temporary certificates obtained by the TV telecourses, who may legally be hired.

Seven well-known educators appeared on the opening program of this year's series. Subjects of the subsequent lectures included guidance, science, "The New Mathematics" and an evaluation of the application of nation-wide studies on teaching to the situations in Texas schools. **End**



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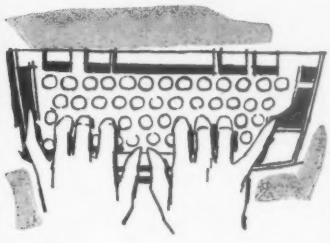

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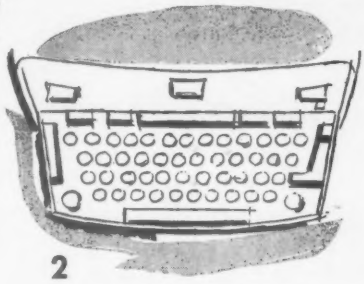

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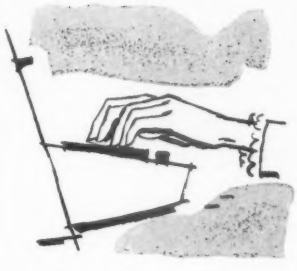

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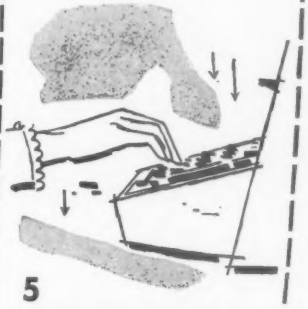

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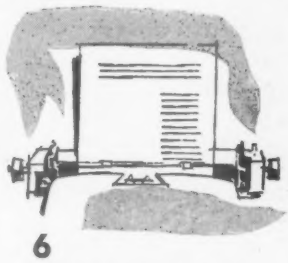

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continued from page 42

Recommendation 12: *Organization of the School Day*

The school day should include at least six periods in addition to required physical education and driver education which in many states occupy at least a period each day. This means a seven or eight-period day with periods perhaps as short as 40 or 45 minutes. If that's done, laboratory periods and industrial arts courses should involve double periods.

The six-period day is too rigid and prevents the talented from taking a full academic program as well as electives.

If class periods must run an hour, then the school day would have to be lengthened to make a seven-period day possible.

Recommendation 13: *Prerequisites for Advanced Academic Courses*

What this boils down to is that the student doesn't go into advanced academic courses unless he's demonstrated his ability to handle the work.

For math, the sequence should be arranged so that only students who have earned a grade of at least "C" can take the next higher course.

For 12th-grade physics, admission should be open only to students with three years of math, with at least a "C" in each course.

For foreign languages, "C" should be the prerequisite for entry into the second-year course.

Recommendation 14: *Students Should Not Be Given a Rank in Class According to Their Grades in All Subjects*

Here's where Mr. Conant, in effect, offers to do battle with parents from coast to coast.

Eliminate the valedictorian and salutatorian, says he. All that rank means now is that the students got the highest average grades for all courses. And, because of the importance attached by communities, and even colleges, to such rank, lots of able students take easy courses in which they know they'll get high grades.

Instead, admissions officers (and, by implication, employers) should ask to see the student's record.

Recommendation 15: *Academic Honors List*

At the end of each marking period, publish a list of those students who made at least an average grade of "B" in the program recommended for the academically talented. If they're on the honors list for all four years, that should be noted on the diploma.

Some special recognition should be given to the students who do well in the other courses, but Mr. Conant doesn't believe separate types of diplomas are the answer.

Recommendation 16: *Developmental Reading Program*

For the student who wants to improve his reading speed and comprehension (not the slow reader who needs remedy), there should be a voluntary program. It should be voluntary simply because there's a strong relationship between desire to improve and actual results.

Recommendation 17: *Summer School*

There should be a tuition-free summer school, not only for make-up work but for the bright student to broaden the scope of his elective program.

Recommendation 18: *Foreign Languages*

A third and fourth year of a foreign language should be offered no matter how few students enroll. Students should study one foreign language for four years; not two for two years each. The latter is a waste of time since the purpose is to master the language. It can't be done in two years.

If, after the first year of a language, the student has proven he

can't handle the subject, he should drop it.

This is another subject close to Mr. Conant's heart. He devotes pages to the reasons for mastery of a foreign language in high school, ranging from personal satisfaction to international implications. His arguments are indeed compelling and his study indicates that this is one of the weakest spots in public secondary education as he viewed it.

Recommendation 19:

Science Courses

All students should get some understanding of science by a required course in physical science or biology, but there should be three sections: for those with considerable academic ability, those with average ability, and those who handle academic subjects slowly and with difficulty.

All the way up the line in science courses, standards should be kept high for the top course, with the material adapted for those with less ability and less mathematical background.

Recommendation 20:

Homerooms

It's here that no ability grouping at all is in evidence. Purpose of these homerooms is developing an understanding between different students of differing abilities and various vocational goals. Students should stay in one homeroom for the entire senior high school course and each homeroom should be a cross-section of the school. It's here that the student will develop community interest and have practice in representative government. It's the social unit of the school.

Recommendation 21:

Twelfth Grade Social Studies

In the 12th grade, a course on American problems or American government should be required, including as much economics as the students can handle. Here, too, each class should be a cross-section of the school.

It's here that controversial issues should be explored and it's here that much can be done to develop citizenship.

Recommendation 22:

The Small High School

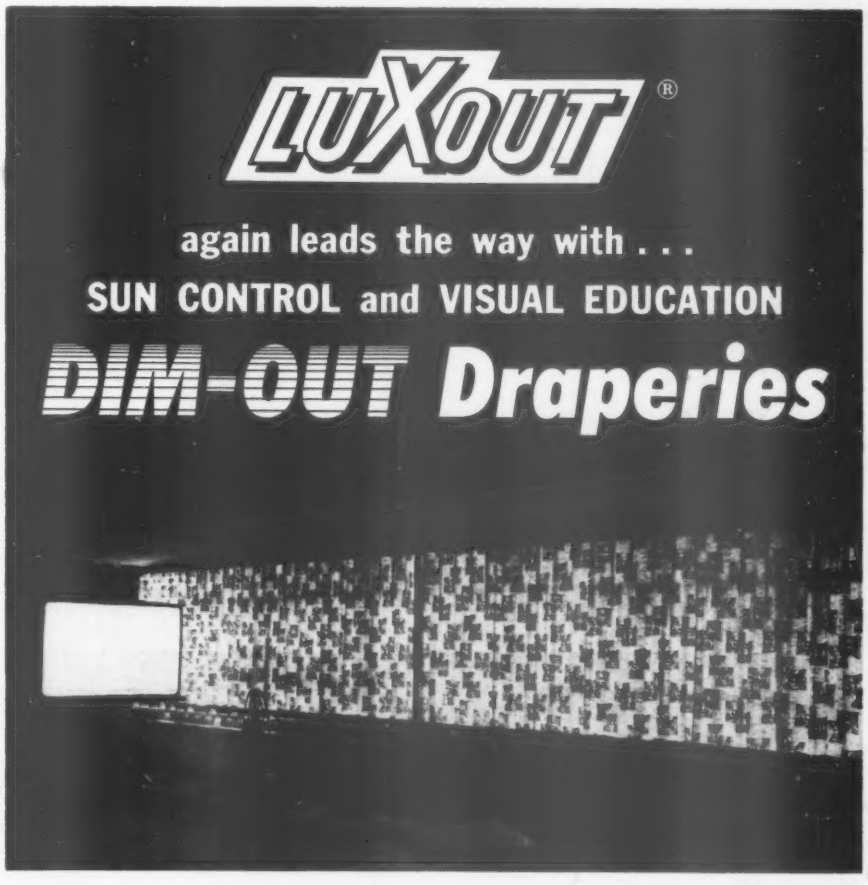
Recommendation 22 (or maybe Number One) gets a chapter all its own. The small high school has to go, says Mr. Conant.

There are now about 21,000 high schools in the United States; there should be a maximum of 9,000.

He arrives at this figure by another route. From his studies, he determined that a graduating class of at least 100 was necessary in order to offer a first-rate education to the academically talented and also to those whose formal education will stop at high school.

Using the national statistics and his recommendation on the size of the graduating class, he shows that one out of every three American public high school seniors attends a small school "in which the chances are slim that he can get a satisfactory secondary education."

If the nation followed California's pattern (where 481 high schools take care of 140,000 sen-



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iors), then we'd need only 5,000 high schools.

Some of his arguments for the larger high school include improvement of instruction, better use of teachers and other professional personnel, good courses for the top academic students, and virtual elimination of teacher shortages in such fields as physics.

The question then becomes how to eliminate the small high school, especially when the arguments used, such as geography or long bus rides for the children, are not as valid as the real stumbling block: human nature.

First of all, he says, each state department of education has to initiate a plan. Then the state legislature has to put some teeth into it by making it worthwhile for the districts to reorganize and a detriment financially and otherwise not to.

The final determinant will be the voter who will have to turn his back on economy and cast his ballot for quality.

Special Problems

In the report of his study, Conant devotes space and thought to the problems of the big city and suburban high school. Those will be of specialized interest to school authorities who have to deal with these very real and very different problems.

However, Conant points out that much of what he recommends for the comprehensive high school can also be applied to the specialized schools and the suburban schools.

Three essential ingredients

Early in his book, he states three things that are necessary to have a good high school, provided it is of sufficient size. If you have these, other things will come. If you don't have them, it's the place to start. They're these:

First, a school board composed of devoted, intelligent, understanding citizens who realize fully the *distinction between policy making and administration;*

Second, a first-rate superintendent;

Third, a good principal.

Mr. Conant speaks directly to school board members when he says that some of his recommendations can be put into effect at the beginning of the school year without upsetting in any way the morale of the teaching staff.

"Other recommendations, however," he warns, "can only be effective if a majority of the teachers are convinced of their wisdom."

He recommends that a superintendent who believes in the recommendations should first examine the problems involved with committees of teachers and then try to persuade the teachers that they be given a thorough try. "I have in mind particularly," he says, "the controversial subject of ability grouping, any recommendations in regard to marking or grading and the requirements set up for admission to advanced courses."

Past is prelude

The study on the American comprehensive high school is finished, although straws in the wind indicate that there will be more study by Mr. Conant in the field of public education. But, as far as his recommendations are concerned, he believes they have now been presented to the American public. Whether the people act on them is dependent largely on the push they get from superintendents and school board members. **End**

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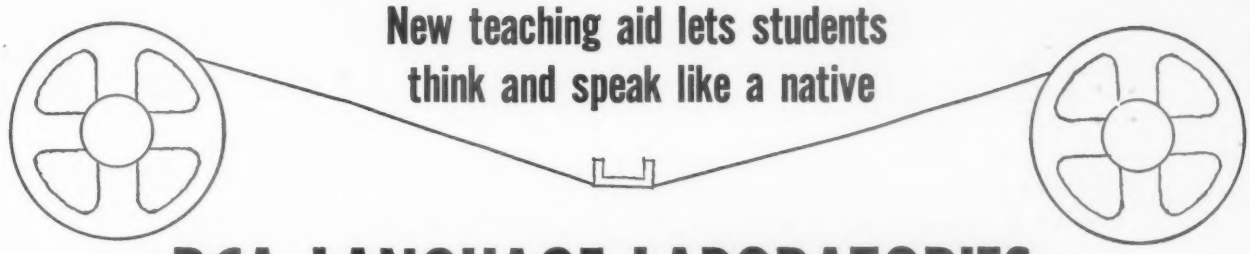

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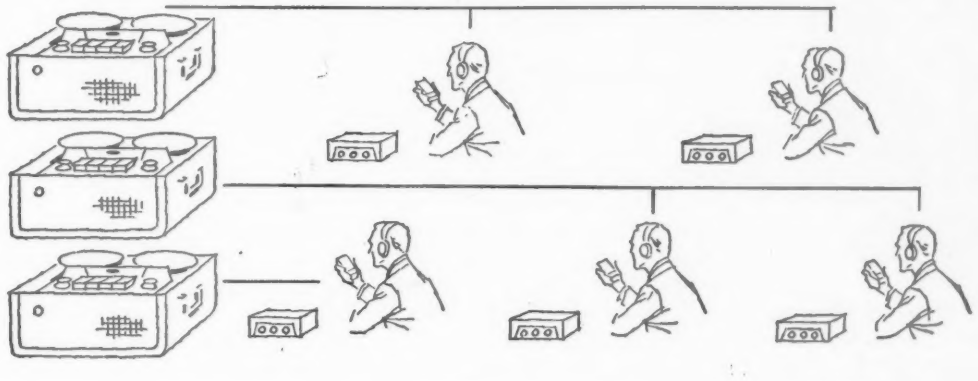

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High school investment pays off in education

Business students learn the mechanics of the commercial world. Now these students are learning what makes it tick.

By WILLIAM P. DOUGLAS,

Business Education Department, Brentwood High School, Pittsburgh

■ ■ ■ High School business students usually learn typing, shorthand, transcription, office practice, bookkeeping, general business training, business law and salesmanship, along with the other allied subjects, but they seldom learn anything of the functions of business itself. The stock market, for example, is a part of our life as witnessed by the many pages in our daily papers devoted to the economic and financial situation of our country. But how many business students actually understand it?

With this realization of how little was known about the stock market and its direct relationship to business itself, our school administration gave me the opportunity to make my business education students more conscious of what a business enterprise really is by making it possible for them to become part owners of some of the great industries of America.

We formed an investment club in the fall of 1956 with approximately 80 members. The club grew to 143 members in 1957 and today there are more than 298 high school members.

Today in Brentwood High School the financial pages of the daily newspapers draw first attention because the investment club members, as a group, are stockholders in two major companies and therefore have a personal interest in the rise and fall of the stock market. The student members are learning to buy and sell actual shares among themselves, making profits and absorbing losses according to daily market values.

How it operates

The investment club itself is conducted as a corporation. The club is owned by stockholders, who elect a board of directors, who in turn elect officers. The board of directors determine policy and the officers act as managers of the club.

Each fall the club is organized and shares of stock are issued to stockholders at 50¢ par value per share. No individual may own more than 25%, of the total amount of issued stock. From this initial investment the board of directors purchases shares of stock from the open market through a broker of the New York Stock Exchange.

Last year 10 shares of Chrysler stock and 10 shares of G. C. Murphy Co. stock were purchased. The latter company has a local main office. It was decided to have at least one holding in a local company for contact and visitation purposes.

With broker's commission and taxes the total cost was $993.18 for the combined 20 shares. This amount was subscribed by the investment club stockholders with the issuance of 1,987 investment club shares.

At the time of the actual stock purchase from the broker, each individual stockholder's share in the investment club was established at a market value at 50¢ per share. The actual rise and fall of the Chrysler and Murphy stock then determined the daily market value of the investment club stock. In the event that the parent company stocks went down the investment club stock lowered in exact ratio; i.e., if the combined value of Chrysler and Murphy decreased 10% in value to $893.86 in its daily quotations, the investment club stock would in turn have a market value that day of 45¢ per share, 10% less than the original 50¢ paid. The same holds true in reverse when the market rises.

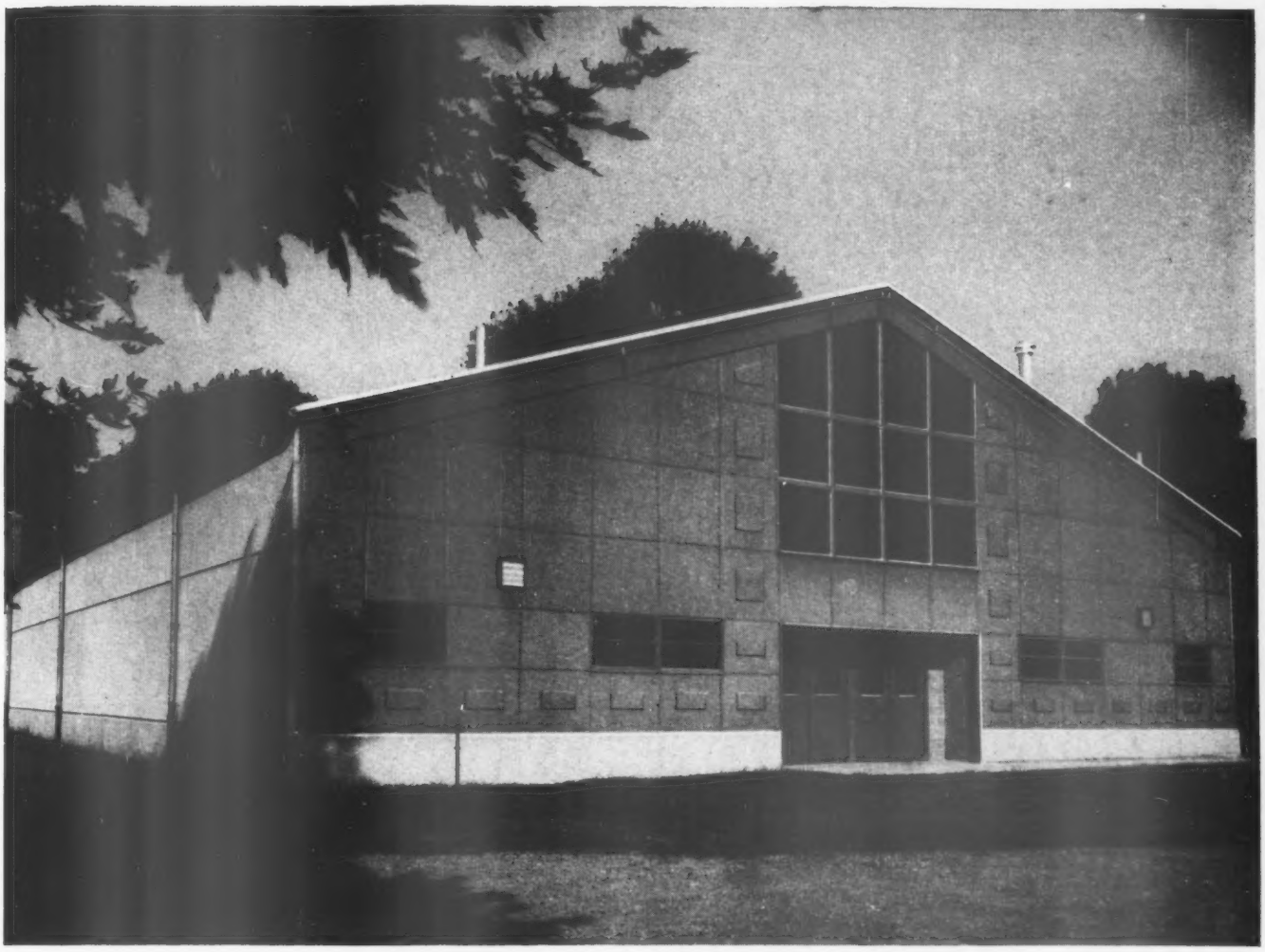
A member may buy and sell investment club shares of stock based on the market value of the stocks owned by the investment club or by offer and bid. Activities of the club can be diversified to whatever the members desire in any way of investments and new stocks can be purchased if desired.

The bookkeeping department of the club, under the direction of the officers, keeps stockholders' records such as subscription books, cash records, subscribers' ledgers, stock certificates books, stockholders' ledgers and stock transfer records, minute book, etc.

Dividend checks are cashed and saved, thus adding to the final value of the club stock at the time of dissolution in May or early June. The club is organized anew each fall and is dissolved in the spring sometime prior to graduation day. Each fall the group buys again to gain experience in trading.

The club holds a general stockholder's meeting once a month, at which the stockholders vote, listen to recommendations, are issued financial reports, and are advised by the president what the board of directors is considering in regard to buying new stock or selling the original investment. The board of directors meets four times additionally each month.

So far, the students have been lucky; they have traded at a profit. The investment club is a big project to undertake, but well worth every minute spent for anyone who wants to provide real life learning experience for his students. **End**



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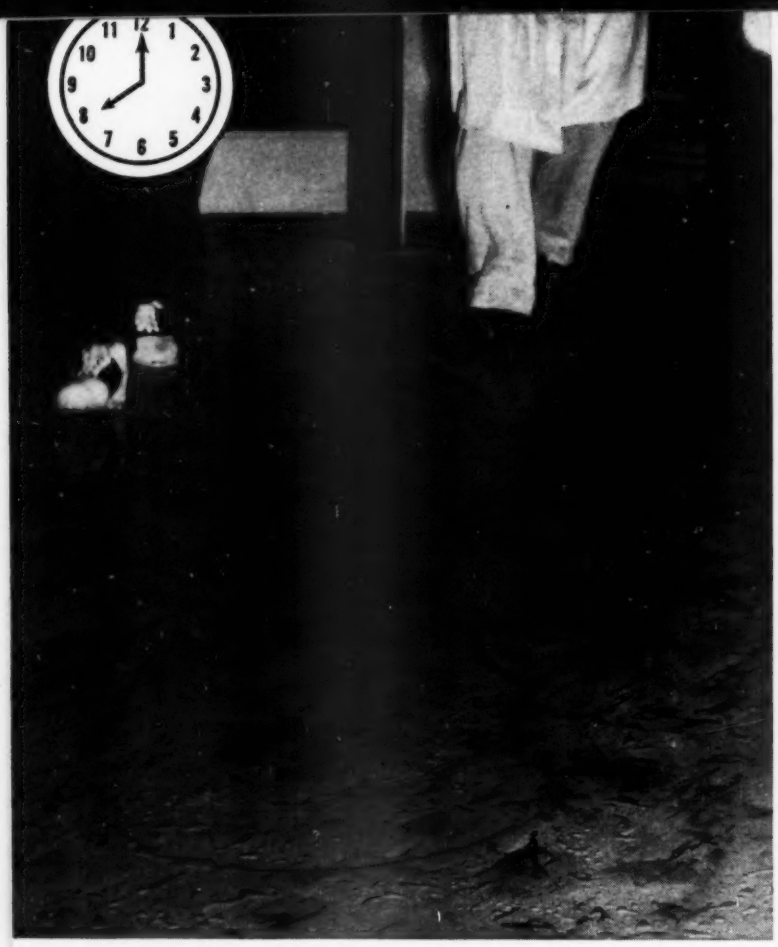

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How do you keep a school floor shiny when water and slush are tramped in? The solution at the new Mackinaw High School, Mackinaw City, Michigan: *Weatherall Wax*—the heavy-duty wax designed to protect flooring against moisture and to stay bright and blemish-free, even under wet traffic conditions and the frequent damp mopping that is necessary.

Weatherall is just part of the simple but complete interior maintenance program installed at the Mackinaw School by the Huntington representative, R. W. Rarick. School officials are pleased because it's already apparent that this program is saving time for the custodians to get other work done. And the exposed surfaces of expensive building materials are getting good protection. Superintendent Beauchamp said, "I was surprised at the difference a few products designed especially for school building maintenance could make. We get better cleaning with less fuss and bother than ever before."

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How good is educational television for your students?

Educational television programs cannot be evaluated as a whole. Each must be considered separately. Here is a check list, developed by working educators, to help accomplish this purpose.

■ ■ ■ Educational television for classroom use is a reality in almost every part of the country. Programs vary from the complete closed-circuit set-up in Hagerstown, Md., to those that once in a while allow students to watch a particular telecast in school or those that assign outside viewing. But, in some way or other, television teaching is affecting all of our schools.

How effective is teaching by television? Experts and laymen alike disagree. Surveys, made scientifically and otherwise, have resulted in inconclusive answers. In one junior college, a report showed television was working well; another similar institution cast doubt on its merits.

The answer appears to be that the value of television depends on how and where it is used and the quality of the presentation. Each program or course offering must be evaluated on its own individual merits. To help do this, a check list for evaluating educational television programs was prepared for the Lindenhurst, N. Y., public schools by Harold L. Holmes, coordinator and supervisor of elementary education. Sections of it were adapted by permission from the publishers of Curriculum Letter No. 37—"In-Service Training Through Classroom Demonstration," published by the Department of School Services and Publications, Wesleyan University, Middletown, Conn.

We present it here as a first major aid for local evaluation of current classroom educational television.

A CHECK LIST FOR THE EVALUATION OF THE CLASSROOM USE OF EDUCATIONAL TELEVISION

Title of Program .....

Topic .....

Date and Time of Observation .....

QUALITY OF THE PROGRAM

How did the teacher establish rapport with his or her pupil audience?

	Please check Yes	No
A. By announcing her name?		
B. By writing his or her name on the chalk board?		
C. Through an understanding of pupil interest?		
D. Through person to person conversational speech (not talking down to her pupil audience)?		
E. By the projection of personality?		
F. Other ways?		

Your Comments

How did the teacher hold the attention of pupil observers?

	Yes	No
A. Was the lesson well planned with its aims and purposes readily ascertained and understood by pupils?		
B. Was the lesson in accord with pupils' interests and needs?		
C. Was the presentation of the lesson dramatic or unusual?		
D. Was the teacher's personality a factor?		
E. Were a variety of teaching materials and techniques employed?		
F. Were audio-visual aids utilized?		
1. Was the chalk board used? If so, how		
a) For lesson blueprint		
b) For illustration		
c) For developing of concepts		
G. Was the program of sufficient intrinsic interest to capture and hold pupil interest for its duration?		

Your Comments

How did the teacher establish readiness in his or her pupil audience?

	Yes	No
A. Was a prior background of experience with the topic assumed by the teacher?		
B. Did the teacher attempt to structure any background of experience for the pupil?		
C. Were motivating questions set-up?		
E. Other ways?		
F. Was readiness ignored?		

Your Comments

How did the teacher culminate the lesson?

	Yes	No
A. Was there an adequate summary of lesson highlights?		
B. Were provisions made for the retention of the knowledge and information presented?		
C. Was critical thinking stimulated, ie. reasonings, generalization, inferences, conclusions, etc.?		
D. Were provisions made for follow up activities?		
E. Was the stage set for later instruction?		

Your Comments

Evaluate by checking the appropriate column.

How do you rate:	Very Good	Good	Fair	Poor
A. The ability of the program to hold pupil attention				
B. The instructor's				
1. personality				
2. speech				
3. ability to stimulate pupils				
C. The teaching aids used				
D. Program quality				

What were your general impressions of the educational programs you observed in regard to:

1. The quality of teaching
2. The teaching techniques used
3. The basic teaching-learning principles involved
4. The lesson blue print
5. The teacher's use of language in relation to the audience for which her lesson was aimed
6. Lesson outcomes
7. Pupil enjoyment of the program

Your Comments

IMPLICATIONS OF THE CLASSROOM USE OF EDUCATIONAL TELEVISION

General Considerations	Yes	No
Were the educational television programs you observed in accord with the broad objectives and purposes of our school system?		
Could these programs be considered an integral part of our curriculum?		
Does educational television add any new dimension to classroom instruction?		
Would you disrupt the school program to make educational telecasts available?		
Would you be willing to forgo teaching of the "3 R's" to make telecasts available?		
Do you have adequate teaching space for television?		

The Classroom Teacher's Role

	Yes	No
Can the classroom teacher be informed on the subject and topic of a telecast well in advance of its presentation to allow ample time for pupil readiness?		
Do you anticipate any problem in readying pupils for television experiences?		
Would the teacher have to incorporate television programing in her planning?		
Can the classroom teacher follow up the telecast with worthwhile activities?		
Does educational television present any problem of communication among television instructor, classroom teacher and pupils?		

Educational television's potential for:	Very Good	Good	Fair	Poor
A. Providing opportunities for pupil participation				
B. Meeting needs of pupils				
C. Providing for individual differences in children				
D. Follow-up activities in the classroom				

Your Comments

What are your general impressions on the classroom use of television in regard to:

1. Pupil participation
2. Pupil teacher relationships
3. Classroom teacher's role
4. The interests and the needs of pupils
5. The use of time
6. The objectives and purposes of our school system
7. Disruption of the total school program
8. The relative importance of curriculum experience
9. The availability and adequacy of teaching space for television
10. Communication

YOUR CONCLUSIONS

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*Patent Pending

Room Number (1)	Location of Room (2)	Dimensions of Room (3)	Type of Room (4)	Present Use of Room (5)	Existing Pupil Stations (6)	Desirable Maximum Pupil Stations (7)	Remarks (8)
101	1	42 x 34	Woodshop	Woodshop	24	28	
102	1	62 x 30	Machine Shop	Machine Shop	29	29	
104	1	26 x 26	Home Ec.	Home Ec.	27	28	
105	1	37 x 27	Home Ec.	Home Ec. & Cafeteria	24	24	Used half time for lunch
107	1	39 x 24	Music	Music	73	73	Band
108	1	33 x 30	Related Instruction	Related Instruction	15	30	
109	1	33 x 28	Printing	Printing	12	16	
110	1	29 x 26	Academic	Elementary	40	40	
201	2	21 x 34	Academic	Elementary	36	36	
202	2	33 x 30	Academic	Academic	36	30	Stage in front
203	2	27 x 22	Mech. Drawing	Mech. Drawing	22	22	
204	2	24 x 28	Academic	Academic	30	30	
205	2	24 x 26	Academic	Academic	37	25	
206	2	38 x 26	Typing	Typing	49	45	
207	2	26 x 24	Academic	Academic	38	32	Glass partition between 206–207
208	2	33 x 30	Commercial	Commercial	30	35	Lavatory
209	2	30 x 33	Academic	Elementary	45	35	
210	2	32 x 30	Academic	Elementary	40	40	
211	2	30 x 33	Academic	Elementary	40	45	
212	2	21 x 34	Academic	Elementary	22	30	
301	3	34 x 60	Study	Study	122	126	
302	3	33 x 30	Academic	Academic	45	45	
303	3	27 x 22	Academic	Academic	32	32	
304	3	24 x 28	Academic	Academic	36	36	
305	3	24 x 26	Science	Science	31	30	Laboratory tables only
306	3	24 x 20	Science	Science	30	30	Lecture only
307	3	36 x 23	Science	Science	30	30	Demonstration desk only
308	3	33 x 30	Music	Music	42	48	Vocal music, lavatory
310	3	18 x 24	Academic	Academic	22	22	
311	3	28 x 33	Academic	Academic	42	42	
312	3	32 x 30	Academic	Academic	45	45	
313	3	34 x 40	Academic	Academic	39	39	
314	3	18 x 40	Art	Art	24	20	
Gym.	1	72 x 54	Phys. Education	Phys. Education	50	50	

Form 3: Instructional rooms, basic data

tion it records the use for which the room was designed, and the use to which it is being put at present. Two other columns on Form 3 provide space for noting the number of existing pupil stations in each room and the desirable maximum pupil stations for each room. (A pupil station is defined as the space required by one pupil in a classroom, laboratory, study hall, etc.)

From this form the total number of teaching stations in each subject is counted and recorded in Column 2 of Form 4.

Form 4: capacity calculation

Form 4 *summarizes* much of the material that has been collected and processed on the first three forms, and it is from this form that the final capacity calculations are drawn. Once the proper figures are placed in the indicated columns of Form 4, application of the formula begins.

Columns 2, 3, 4 and 5 contain the factors needed for the top line of the formula, and Column 6 is the product of these factors. Column 7 is the denominator—the PP—of the formula. Using the formula, the figures in Column 6 are divided by the figures in Column 7, and the result is the pupil capacity limit of each subject area (Column 8).

The smallest figure in Column 8, which is 352 in this example, is the maximum school enrollment that can be accommodated under existing physical and curriculum conditions unless some shifting or remodeling of the building can be made.

Note, however, that while study hall facilities are adequate to serve an enrollment of only 352 pupils, and science facilities only 555 pupils, there are enough academic rooms to serve a total enrollment of 1,527 students.

Obviously this imbalance can be adjusted by converting some of the academic classrooms to other uses. To make this adjustment, the capacity index for individual teaching stations must be determined.

This computation is made by dividing the pupil capacity limit (Column 8) by the corresponding number of teaching stations in each subject area (Column 2). Wide variations result: the academic area requires a teaching station for every 90 pupils, while typing requires one teaching station for every 1,437 pupils. This difference is caused by the fact that while comparatively few pupils elect typing, the average student attends two or three academic classes each day.

The next conclusion to be drawn is Item 11 shown in Form 4: "Adjusted Building Capacity for Regular Scheduled Activities."

To do this it is necessary to con-

sider conversion of some of the excess academic rooms to other uses. Note that one academic classroom is too small to accommodate the assumed average of 100 pupils in a study section. Thus we must allot two academic rooms for a single study hall teaching station to house approximately 100 students.

Column 10 provides space for recording the excess or shortage of teaching stations for several possible adjusted capacity figures. Trial figures of 555, 863, and 876 were selected because they are the second, third and fourth lowest capacity figures recorded in Column 8. (The figure 834, and the "—2s" opposite "Auxiliary Facilities," will be explained in connection with Form 5.)

Using only the three trial figures it it is apparent that an enrollment of 876 pupils will permit the maximum and most effective use of the available space. Thus Item 11, Adjusted Building Capacity for Regular Scheduled Activities, becomes 876.

Form 5: auxiliary facilities

This sheet contains a list of auxiliary facilities necessary to conduct the educational program for an enrollment of 876 pupils.

Facility (1)	Space Satisfactory or Unsatisfactory (2)	Needed Additional Space (sq. ft.) (3)
Administrative rooms	S	.....
Assembly	S	.....
Clinic	U	300
Cafeteria	S	.....
Library	U	900
Pupil toilets	S	.....
Faculty rest-rooms	U	150
Storage rooms	S	.....
Locker and shower rooms	S	.....
Home lockers	S	.....
Student-activity rooms	U	250
Conference rooms	S	.....

Total Additional Space in Classroom Equivalents.....2 (4)

Adjusted Operating Capacity of Building.....834 (5)

Form 5: Auxiliary facilities

Column 1 lists the facilities needed. Column 2 rates the space of each as satisfactory or unsatisfactory. The additional space needed to bring each unsatisfactory facility up to par is noted in Column 3. Figures in Column 3 total 1,600 square feet, or, roughly, the space available in two average classrooms. Therefore, Item 4, in Form 5, is 2.

This figure is recorded in the subcolumns of Column 10 of Form 4 as a minus-2 indicating that two of the excess academic classrooms must be utilized for auxiliary facilities.

Reconsidering the figures in Col-

Form 4: Capacity calculation

Subject Area (1)	No. of Teaching Stations (2)	Desirable Average Class-Size (3)	Effective Periods per Week (4)	Avg. Total Enrollment for 5-year Period (5)	Teaching-Station Pupil-Period Enrollment (6)	Adjusted Pupil Periods (7)	Pupil Capacity Limit (8)	Teaching-Station Capacity Index (9)	Teaching-Station Adjustments (10)			
									555	863	876	834
Academic	17	30	40	602	12,280,800	8,040	1,527	90	+10	+ 7	+ 7	+ 7
Business Education—												
Typing	1	40–37	40	602	890,960	620	1,437	1,437				
Other	1	30–25	40	602	602,000	545	1,105	1.105				
Fine Arts	1	15	40	602	361,200	139	2,599	2,599				
Home Economics—												
Foods	0.5*	24–21	40	602	252,840	245	1,032	2,064				
Clothing-H'making	1	24–23	40	602	553,840	425	1,303	1,303				
Shops and Related—												
Wood	1	24	40	602	577,920	660	876	876				
Voc. Machine	1	16	40	602	385,280	320	1,204	1,204				
Printing	½	12	40	602	288,960	240	1,204	1,204				
Related Voc.	1	30–25	40	602	602,000	280	2,150	2,150				
Mech. Drawing	1	24–19	40	602	457,520	530	863	863	.....	.....	— 1	.....
Music—												
Instrumental	1	75–65	40	602	1,565,200	410	3,818	3.818				
Vocal	1	50	40	602	1,204,000	879	1,370	1.370				
Physical Education	1	35	40	602	842,800	788	1,070	1,070				
Science	2	24	40	602	1,155,840	2,082	555	278	.....	— 2	— 2	— 1
Extensive Lab.	1	24	40	602	577,920	432	1,338	1,338				
Other	1	24	40	602	.....	.....	.....	.....	.....	.....	.....	.....
Study	1.16	100	40	602	2,793,280	7,933	352	303	— 1	— 2	— 2	— 2
Auxiliary Facilities	.....	.....	.....	.....	.....	.....	.....	.....	— 2	— 2	— 2	— 2

Adjusted Building Capacity for Regular Scheduled Activities.....876 (11)

* This room is used half-time as the cafeteria kitchen.

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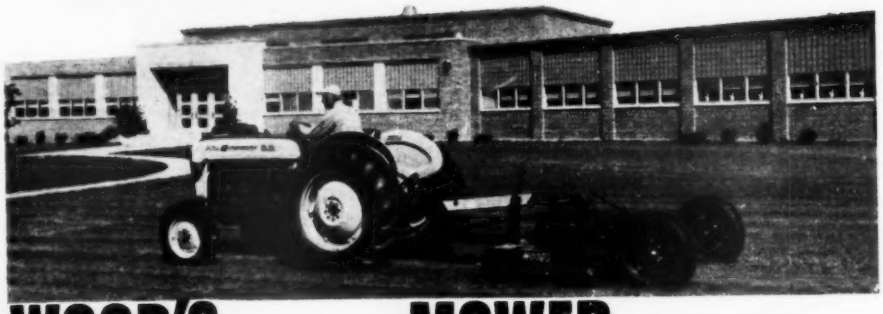

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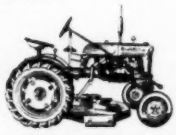
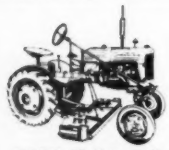
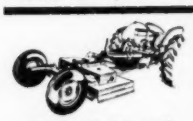


MODEL 42 3-1/2 ft. swath



MODEL 59 5 ft. swath



MODEL 61 5 ft. swath

MODEL 80 6-2/3 ft. swath

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umn 10 of Form 4, we see that an enrollment of 876, or even 863, is too high, while the 555 figure is too low.

The final adjusted operating capacity of the building must be a multiple of the teaching station capacity index of one of the areas involved in the conversion of space. Thus the figure must be based on either 90 (the academic area), 278 (the science area) or 303 (the study hall area), and it must, furthermore, fall between 555 and 863.

Some simple arithmetic gives us the probable answer: 834. This figure is placed in a subcolumn of Column 10 on Form 4 and checked: There is an excess of seven academic rooms for an adjusted capacity of 834, and a need for one additional teaching station for science, and two each for study purposes and auxiliary facilities.

Since four academic rooms are required to provide the two teaching stations for study purposes, two for auxiliary facilities, and one for science, all of the seven excess academic rooms are utilized.

Thus Item 5, in Form 5, the Adjusted Operating Capacity of Building, is 834.

Dr. Conrad's capacity formula has been used during the past six years by Ohio State University to solve problems brought to its bureau of educational research. It has proven to be an accurate, valuable technique in a variety of educational situations relating to the capacity of a school building. But no matter how valuable the new formula is, it is still just one of a series of steps that must be taken to measure the *adequacy* of existing secondary school buildings. Any comprehensive survey of a school building must include the *qualitative* aspects of the plant as well as the quantitative ones measured by this capacity technique.

Dr. Conrad's formula, properly applied and interpreted, can be of immeasurable help to your school district. The results *may* indicate that your high school needs a new wing —or they may show you how to save several hundred thousand dollars by doing some careful planning and a little remodeling. Whatever the final figures show, applying the formula is bound to open your eyes to some facts you didn't know about your schools. **End**

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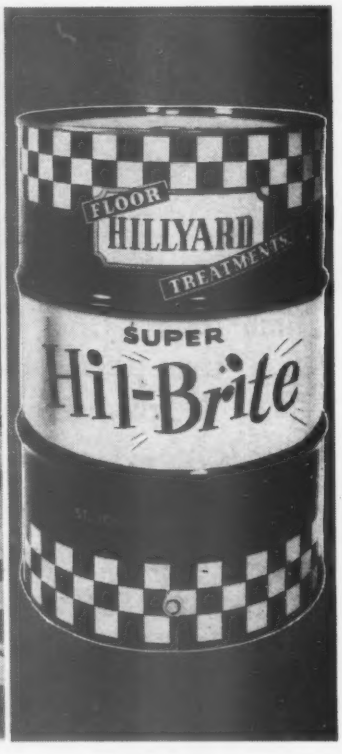

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Central kitchens

continued from page 52

trict has four elementary schools, one junior high school and one senior high. There are no kitchens or provisions for food service in any of the present schools. A central kitchen will be built in a new senior high school. The kitchen will occupy approximately 2,300 square feet.

Approximately 1,600 meals will be prepared daily in the central kitchen and transported in combination hot and cold food carts to all the schools. Accompanying the hot and cold food carts will be tray carts which will contain the compartmented trays used for service—clean going to the schools and soiled returning to the central kitchen for sanitizing. The carts will be plugged into electrical outlets in the receiving schools, and food will be served directly from them to the students. Milk will be brought in by the suppliers just before serving time.

The cost of the central kitchen will be approximately $42,000 for the building and $68,000 for the equipment. This will include the food carts and the truck used in transporting them, as well as all refrigeration and small supplies.

If the district had decided to build individual cafeterias, the cost would have been not less than $300,000, instead of aproximately $110,000 for the central kitchen.

The average number of meals served per man hour in regular counter type cafeterias is 12. It is planned, based on experience, to serve no less than 20 meals per man hour from this central kitchen. For 1,600 meals, this means a saving of 53 man hours a day, or over 9,000 a school year. The food served will be the Type A meal, and will be of higher quality than would be possible if prepared in the individual schools.

Case history: *Newark, Ohio*

The second central kitchen is being installed in Ohio. This one is much larger and will be set up to prepare and serve approximately 5,000 meals a day to 20 schools. There are 13 elementary schools, five combination elementary and junior highs, and two senior high schools. One of the senior high

schools now being built will have the central kitchen, but in a building of its own. This building will be 6,000 square feet and will cost about $120,000 to build. The equipment will cost $180,000 making a total investment of $300,000. As is the case in the smaller district, there are no facilities in any of the existing schools for food service. The method of preparation and delivery will be the same as in the first instance. However, in this district milk coolers, sinks and other facilities will be installed in each school. This, together with the necessity of building food cart ramps, etc., will cost around $50,000. The total investment, therefore, is $350,000. If individual cafeterias were built in each of the 20 schools, the total cost would be not less than $1.2 million.

Using the same ratio of meals served per man hour, this central kitchen represents a further saving of approximately $29,000 a year in payroll.

Case history: *Norwalk, Calif.*

The third central kitchen has been in operation for over a year. It was set up to take care of 32 schools—all elementary, with one exception—and to prepare approximately 10,000 meals a day. The building is over 12,000 square feet in area, and cost approximately $240,000 to build. The equipment, including trucks, carts, etc., cost another $225,000. In this district, small kitchen and serving areas are set up in the individual schools, and all dishwashing is done in them. The cost of the individual kitchens is approximately $11,000 each, or $350,000 total cost. The maximum figure of 32 schools is used, though all of them have not yet been built. The total cost of this enormous program is approximately $815,000. If individual complete kitchens were built in all of the schools, the cost would be approximately $1,350,000.

Using our meals per man hour formula, there is a further saving of over $56,000 a year in payroll.

This particular central kitchen is an excellent example of the possibilities of this type of operation. The school board, the superintendent, the assistant superintendent in charge of business, the cafeteria supervisor, the central kitchen manager and the entire staff are dedi-

for **particular** chefs and bakers . . . the mixer with a **thousand speeds** is the choice!

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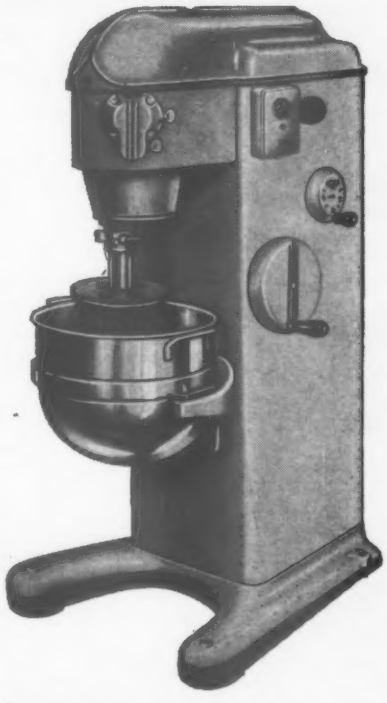
Mixing at ANY speed at the turn of a dial

Successful chefs and bakers take great pride in their work. They agree that proper mixing plays an important role in good foods preparation.

That's why Blakeslee Variable Speed Mixers are becoming so popular. Chefs and bakers know that with a Blakeslee they can mix at any speed they prefer, to give them that "just right" touch. Old fashioned gear type mixers are limited to only 3 or 4 speeds . . . but with Blakeslee's variable speed drive it's possible to get *any* speed desired between the lowest and highest speeds. What's equally important you can change speeds without ever stopping the beater. Just touch the dial and you speed up or slow down—easily and safely.



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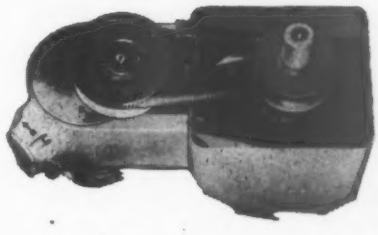

In the variable speed control Blakeslee engineers have eliminated more than 50% of the gears found in sliding gear type mixers. This reduction of gears naturally reduces expensive repairs and production delays. All bearings are of either the roller or ball type, and are designed to reduce wear and tear to a minimum. Every Blakeslee Mixer owner is assured of years of uninterrupted and money-saving service.

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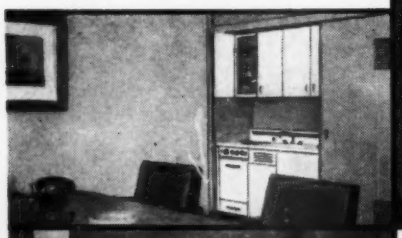
***School Management* is the best platform from which to discuss the problems of your schools**

Dwyer

compact kitchens



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cated people, and the program has proven successful in every respect.

Only for big districts?

The central kitchen concept is not necessarily for the larger district alone. It is feasible for any number of schools—even as few as two. There are successful operations in which an elementary school services only one other school, or where a central kitchen in a secondary school provides food preparation for from one to eight outlying locations.

Basically, the same situation applies so far as the number of pupils to be served is concerned. In general, however, it is difficult to justify the cost of transportation and service for fewer than 75 children at any single receiving area.

Obviously, there are many varied situations to which the central kitchen concept can be applied. It is particularly rewarding in districts where no facilities for food service existed in the past. Or in newer districts where building programs are being contemplated.

The fact that your present schools have kitchens should not preclude consideration of a central program. It is feasible to remodel existing buildings—particularly high schools—to serve as central kitchens. In many cases, where individual kitchens exist in outlying elementary schools, these can be converted into receiving areas for hot and cold food carts and some of the equipment can be transferred to the new central food preparation point. **End**

FREE ADVICE

Want some free advice on school feeding?

If you have a school cafeteria problem, or desire information on any aspect of your feeding program, send your questions to **School Management** *and we will ask Mr. Flambert to answer it in an early issue.*

Ground rules: *Your question must be "answerable" in 500 words or less and, in the opinion of Mr. Flambert, it must be of interest to other readers.*

Address your inquiries to: Feeding Information, Dept. F-1, **School Management,** *22 W. Putnam Ave., Greenwich, Conn.*

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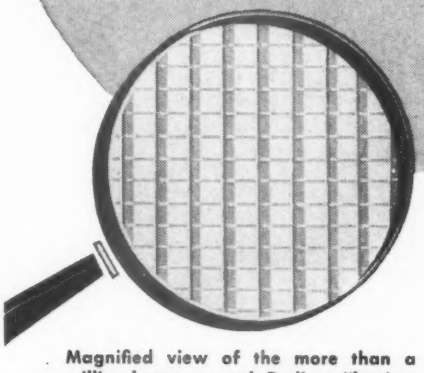

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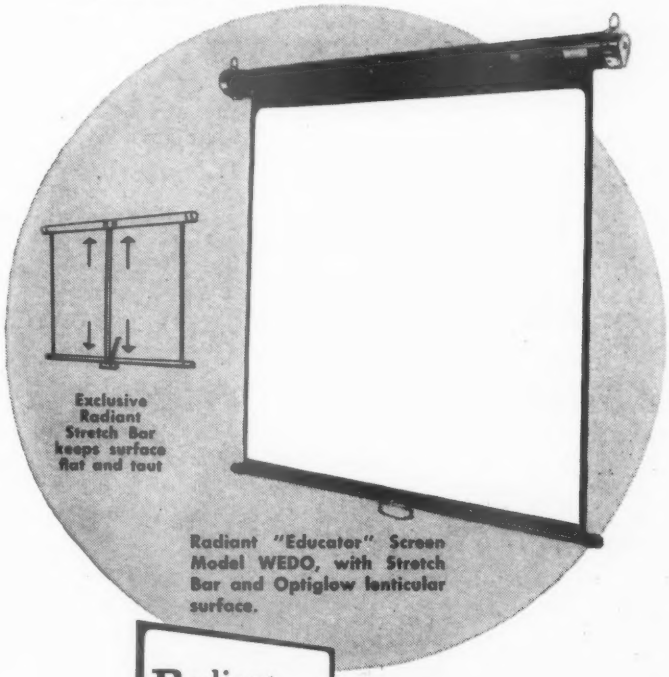

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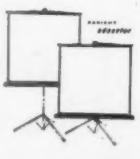

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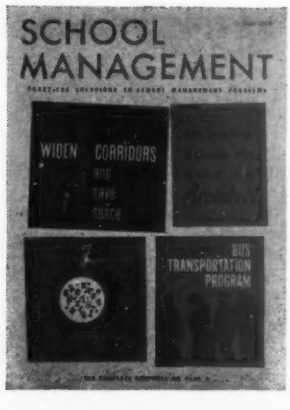


Where are they now?

This school district has developed a simple, practical method for keeping track of teacher assignments, vacancies and duties.

By HUBERT N. CLARKE

Administrative assistant, Jackson, Mich.

■ ■ ■ Keeping track of teacher assignments, vacancies, and replacements in medium or large schools can be a complicated job. This was very true in Jackson, Mich. when records were kept only on lists or loose cards that were easily lost or misplaced. Seldom could anyone, other than perhaps the one person keeping the lists, determine exactly the current status of staff placement, changes and needs.

For the past three years this situation has been eliminated. Now, any person needing the information can see at a glance the current situation in any school in the system, or in the system as a whole. The plan was developed from an idea of Jackson Superintendent Ralph D. McCleary, after he had seen a Multiplex bulletin board in an engineer's office. This is a display board with a number of 30 by 40-inch panels hinged on one side to a center post or wall rack, so that the panels may swing like pages of a book, and both sides be used. We adapted the board to school use and placed it in the central teacher personnel office.

Assigning one panel to a school (two sides were necessary for the high school), library book pockets were glued to the panel in columns (*see illustration*), with the pockets partially overlapping to save space. Only as many pockets were used as were necessary to represent the number of professional positions in that school. Each pocket was labeled with the title of the position, such as "Principal," "Counselor," "English," "3rd Grade," etc.

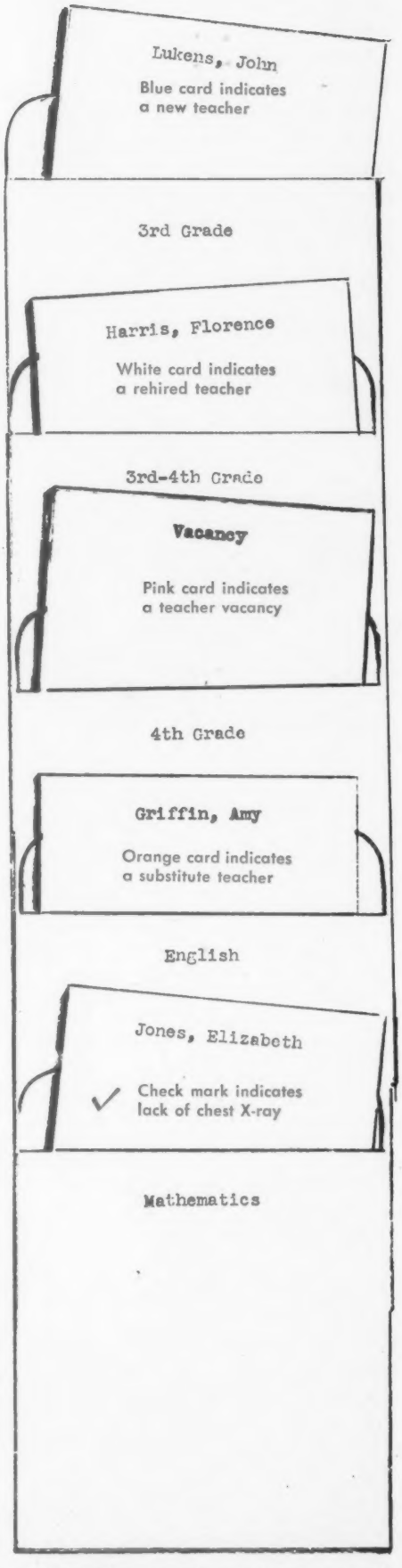
The next step was to type the name of each professional employee at the top of a white three by five-inch card, and place it in the appropriate pocket on the chart.

When a teacher is transferred from one school or position to another, it is only necessary to change the card from one pocket to another in order to keep the record up-to-date. When a teacher resigns, the name card is removed and a bright pink card is placed in the pocket to clearly indicate that a vacancy exists.

Because it is often necessary to know which of the people are new to the staff, a blue card is used for these during their first year. This is changed to white when they are rehired. Substitutes, when employed for terms of a month or more in length, are indicated by orange cards. It is not considered necessary to so indicate day-by-day or short term substitutes.

Other uses of these pockets come up from time to time. These have included the status of contracts offered and signed, required chest X-ray reports, and many others. To indicate completion of any of these operations, colored marks are placed on the cards or a narrow slip of colored paper is placed vertically in the pocket. These can be removed when, for example, all teachers have completed their chest X-ray requirements.

The charts are a very systematic and practical addition to the personnel office. We strongly recommend the procedure to other schools. **End**



Scheduling rack tells status of all teachers in schools at a glance.

Summer schools

continued from page 49

though. It goes back to the school system. Last year most of it was used to buy new textbooks.

Q Then, if a community feels it can't support a free summer school, it might still have one by charging tuition?

ROGERS: There'd be different factors in each community, but generally I don't see why it shouldn't work. Especially if the summer school were opened to students from other communities in the area. You have to work closely with these other schools, of course. We don't accept a student from another city unless his school sends us a note authorizing it. And other cities may not give the same credit for the same courses. They don't with our school: some are easier, a few more conservative. But financially it ought to work out.

Q Let's change the tack here. Running a program of this size is an impressive responsibility. Not talking about Newton now, but just generally, can a school system use its summer school to train administrators or to evaluate them?

ROGERS: It depends how they handle it. You can read about administration in case studies, but to really learn it you have to be in the position of decision, not just carry through somebody else's thinking.

Here at Newton, for example, within certain restrictions, I'm the boss of the summer school. I make the decisions. Naturally, I have to be sensitive to the needs of both the students and the system. If I go wrong, I might not have the job next year, but as far as this year is concerned, I'm the boss.

Now if a system is willing to delegate this authority, I'd say yes, very definitely, it can get an idea of how a man handles himself.

Q Looking ahead, what do you see in the future for the summer school?

ROGERS: Up to now, this has been a shoestring operation, in spite of its size. I think this emphasis will change as a result of the tremendous turnout we had last year.

Beyond that, summer school is an ideal opportunity to experiment. For example, to find out what courses belong in the high school curriculum. You can work that out on paper and it doesn't mean much. In summer school, you can try it out on the students themselves. They know it's an experiment, and you aren't hurting their education.

Sometimes ideas that seem very valid don't get used because the school committee (board) feels they won't work. But the committee will let you try them in summer school: you pioneer them and you have some evaluation. If they work, you can move them into the regular session.

There are other possibilities too —teacher training, correspondence courses, a different basis for work with problem children. But this ability to experiment is basic. The advantage at Newton is that we can try out little projects without committing the whole school system. If they work, we can build on them and coordinate them later.

If you stick to theory and wait until a complete program is ready before you start, you may never get started. **End**

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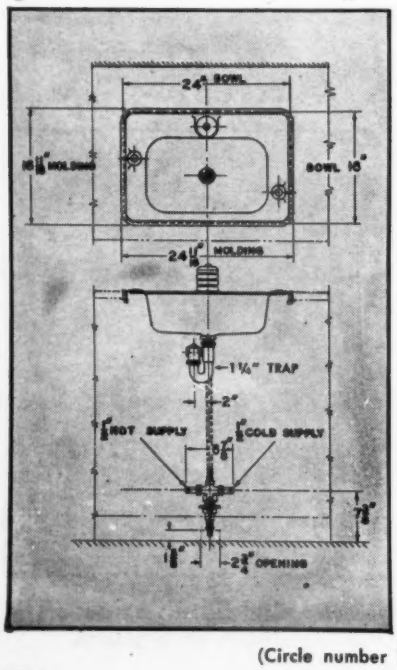

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The Bradley provides washing convenience with maximum sanitation, since hands touch nothing but the clean spray of tempered water controlled by foot . . . For complete data, Washfountains and Drinking Fountains, write for Catalog 5601 to BRADLEY WASHFOUNTAIN CO., 2343 W. Michigan St., Milwaukee 1, Wis.

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PRESS RELEASES

News from the business firms serving your schools

Two-speed floor machine

General Floorcraft, Inc., has announced the first two-speed motors, in ½ H.P. and ¾ H.P. capacity, for floor maintenance machines.

According to the manufacturer, the two-speed motors permit the user to simply flip a switch on the handle to reduce the speed to 105 RPM for scrubbing, waxing, wire scrubbing or

shampooing rugs. To increase the speed to 160 RPM for polishing, buffing or dry cleaning, the switch is flipped back. There's no need to stoop down to change gears, or to stop the motor. There are no gears to shift.

For complete details on this product, please circle number 899 on the Reader Service Card.

Elementary arithmetic program

A revolutionary new program for teaching and learning elementary arithmetic—specifically designed to prepare pupils for modernized mathematics in later school years—was announced by Scott, Foresman and Co., leading publisher of elementary textbooks.

Willis H. Scott, president of the company, said the new program represents the most significant development in elementary arithmetic in nearly 50 years."

The result of 13 years of research and preparation, the program is incorporated in textbooks called "Seeing Through Arithmetic," just completed in a basic series with the publication of the sixth grade text.

The new program is "based on the conviction that introducing basic mathematical principles early in the grades greatly simplifies arithematic and minimizes the difficulties and frustrations usually associated with the subject."

For more information on this program please circle number 888 on the Reader Service Card.

■ ■ ■

Fiberglas playground equipment

Challenging the imagination of a child outside the classroom as well as inside is the theory on which two college educators have created an en-

Literature Available FROM MANUFACTURERS

Curtain walls. A new 20-page catalog of Geyser Aluminum windows and curtain walls explains and illustrates their basic design and construction.

For a free copy of this catalog, circle number 887 on the Reader Service Card.

Floor maintenance. Two pamphlets published by the Asphalt Tile Institute cover proper floor maintenance and floor protection devices for school equipment. General and specific recommendations and instructions for all types of schoolrooms are included.

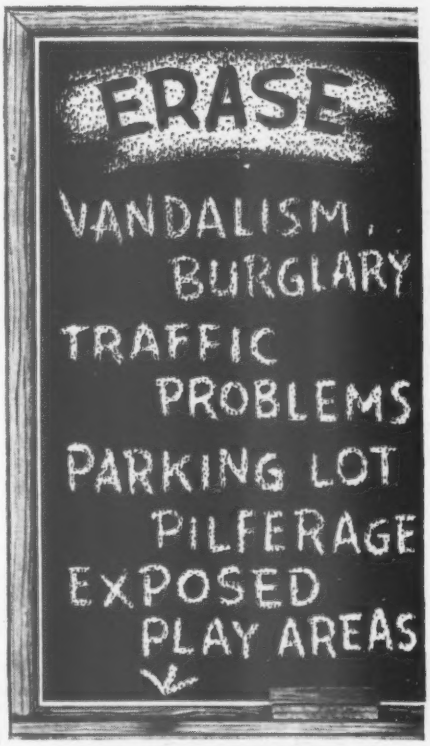
For free copies of these pamphlets, circle number 886 on the Reader Service Card.

Locks. A brochure published by Challenger Lock Co. includes complete specifications, recommended uses, cutaway drawings of locks, and full-color illustrations of locks and escutcheons.

For a free copy of this brochure, circle number 892 on the Reader Service Card.

Physical education. A folder published by the Nissen Trampoline Co. outlines the value of trampoline clinics and tells how they should be run, who should attend and rules for conducting them.

For a free copy of this folder, circle number 890 on the Reader Service Card.



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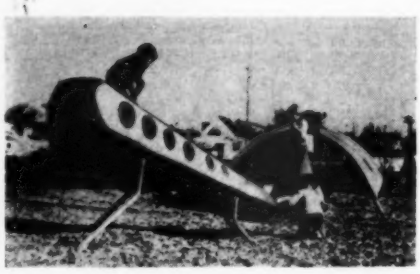


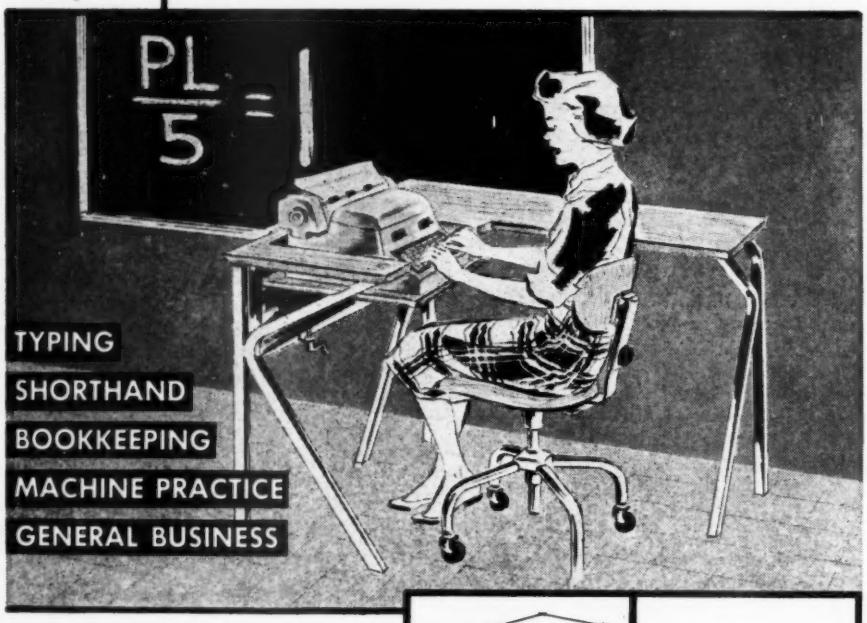
tirely new concept in playground equipment of Fiberglas-reinforced plastic and galvanized steel made by Creative Playstructures, Inc.

The playstructures have been designed for maximum safety with rounded forms and smooth surfaces. The Fiberglas plastic material is extremely durable. Since the reinforcing fibrous glass strands are of inorganic composition, the material is resistant to inclement weather, extreme heat or cold, and will not rot, fade or need painting.

The products do not literally resemble anything in particular. Children interpret them in many different ways. The playstructures are designed so that several children can play on a single piece of equipment at one time by hanging, crawling under, swinging, sliding or jumping from it.

For more information on this product, please circle number 895 on the Reader Service Card.

The NEW WAY to TEACH 5 Classes in 1 Room!



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Do-it-yourself waste baskets

Bennett Manufacturing Co., Inc. offers a new kit that will convert any 55 gallon drum into a self-closing waste receptable that is sanitary, fire-resistant, and a litterbug eliminator. The kit has three parts: a drum top finished in green enamel and equipped with adjustable clamps for mounting to empty 55 gallon drums; an Aerosol spray can of green enamel for covering the outside of one 55 gallon drum

in one coat to match the drum top, and a burlap bag with six grommets and hooks for attachment inside drum to provide quick removal of collected waste.

For more information on this kit, please circle number 902 on the Reader Service Card.

■ ■ ■

Edging school lawns

Up to 80 miles of turf can be edged daily with the new tractor-drawn "Kurb-Dresser" developed and produced by K-D Manufacturing Co. Cleburne, Tex.

This heavy duty industrial edger neatly and efficiently trims, at speeds up to 15 miles per hour, unsightly grass runners or turf build-up overlying driveway curbs and campus and park sidewalks.

No special operational skill is required; merely the ability to drive a tractor. The "Kurb-Dresser" may be adjusted in moments to operate with or against traffic from surfaced or turfed areas. Wet or dry turf can be edged with equal facility. Because it has a non-spinning cutting blade, this revolutionary unit provides maximum operator safety and protects bystanders against the danger of flying debris common to conventional edging units.

For more information on this product, please circle number 894 on the Reader Service Card.

■ ■ ■

Office paper cutter

The addition of a front wheel as a convenient calibrator for precision cutting is the important feature of the new manual office paper cutter, announced by Michael Lith Sales Corp. in New York. Low in cost and en-

gineered to work like larger cutting machines, this new model comes in 14 and 18-inch sizes. The new wheel, calibrated to 1/32 of an inch, moves the back gauge forward and backward.

The machine is designed especially for the school office and for school duplicating departments.

For more information on this product, circle number 900 on the Reader Service Card.

■ ■ ■

New kind of dishwasher

A new concept in automatic dish washing technique has just been introduced by the Champion Dish Washing Machine Co. of Erie, Pa. According to the manufacturer, this new design provides for flexibility in layout and operation, and greatly reduces labor and breakage costs.

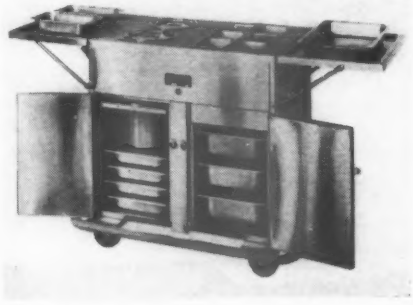
Incorporating a continuous, automatic dish rack conveyor system, the unit reduces the dish pantry payroll by making it possible to unload trays of soiled tableware directly into the plastisol coated racks. By omitting the usual soiled dish table and its customary handling and rehandling of dishes, breakage is also drastically reduced.

For more information on this product, please circle number 903 on the Reader Service Card.

■ ■ ■

Hot and cold food cart

Atlas Division, National Cornice Works, is introducing a new portable electric hot and cold food cart which provides an optional dry or moist heat top section, lower heated compartment, and a "cold-conditioned" food compartment.



The new cart is a mobile; self-contained unit, with the top covers opening out to function as full serving shelves.

The cart easily serves complete meals for 220 children or 150 adults. Interchangeable top deck equipment will handle varying requirements of diversified menus and special diets. The cart functions equally efficiently as a food transportation unit and as a food serving facility when the cart has arrived in serving area.

For more information on this product, circle number 896 on the Reader Service Card.

Solar energy kit

A device demonstrating the direct conversion of light into electricity, through silicon junction solar energy converters, has been developed by Hoffman Electronics Corp. for experimental use in school laboratories.

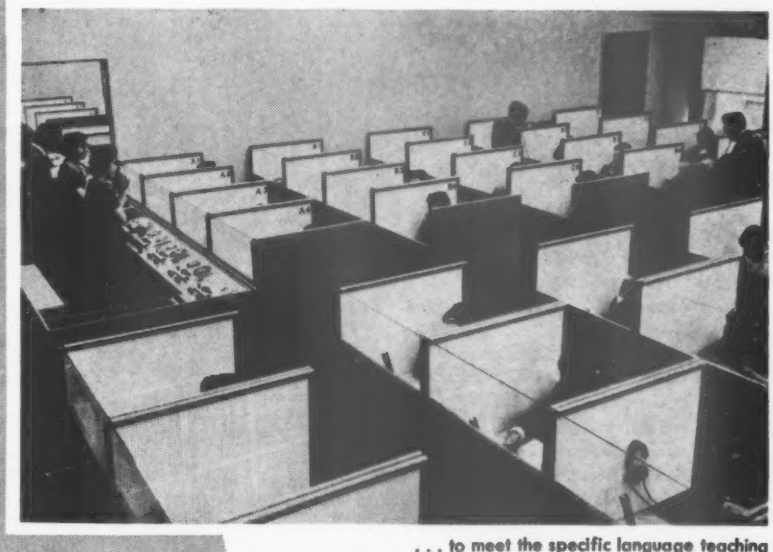
It will be made available to qualified persons at cost, on request, along with materials outlining the history of solar energy conversion, details of solar converter construction, physical properties and performance specifications.

The equipment consists of four solar cells (silicon junction converters), wired in series, which activate a small electric motor when exposed to sunlight or a minimum 150-watt incandescent light bulb. A four-blade propeller is attached to the motor shaft. The equipment is mounted on a three by five inch red plastic base.

The solar cell converters used in the kit are similar to those produced by Hoffman to power one of the Vanguard satellite's radio transmitters. This radio has been transmitting from outer space, on power from the sun, since the satellite's launching.

Cost of the complete kit is $14.00.

For additional information on this product, circle number 897 on the Reader Service Card.



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